

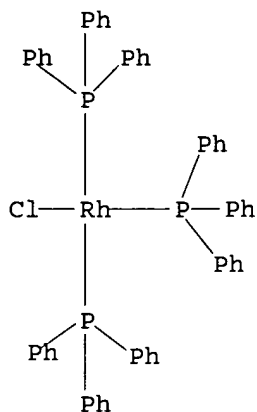
10/526,912

(FILE 'HOME' ENTERED AT 12:29:01 ON 06 MAR 2006)

FILE 'REGISTRY' ENTERED AT 12:29:17 ON 06 MAR 2006

L1 STRUCTURE UPLOADED

=> d l1
L1 HAS NO ANSWERS
L1 STR



Structure attributes must be viewed using STN Express query preparation.

=> s l1
SAMPLE SEARCH INITIATED 12:29:52 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 983 TO ITERATE

100.0% PROCESSED 983 ITERATIONS (1 INCOMPLETE) 3 ANSWERS
SEARCH TIME: 00.00.02

FULL FILE PROJECTIONS: ONLINE **COMPLETE**
BATCH **COMPLETE**
PROJECTED ITERATIONS: 17780 TO 21540
PROJECTED ANSWERS: 3 TO 163

L2 3 SEA SSS SAM L1

=> s l1 full
FULL SEARCH INITIATED 12:29:58 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 19131 TO ITERATE

99.3% PROCESSED 18989 ITERATIONS (53 INCOMPLETE) 93 ANSWERS

100.0% PROCESSED 19131 ITERATIONS (54 INCOMPLETE) 94 ANSWERS
SEARCH TIME: 00.00.16

L3 94 SEA SSS FUL L1

=> fil caplus
COST IN U.S. DOLLARS SINCE FILE TOTAL
ENTRY SESSION
FULL ESTIMATED COST 167.38 167.59

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FILE LAST UPDATED: 5 Mar 2006 (20060305/ED)

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=> s l3/prep
      2766 L3
      3432738 PREP/RL
L4      133 L3/PREP
          (L3 (L) PREP/RL)
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=> s l4 and py<=2003
      23835848 PY<=2003
L5      123 L4 AND PY<=2003
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```
=> s l5 and rhodium trichloride
      67649 RHODIUM
      37956 TRICHLORIDE
      1161 RHODIUM TRICHLORIDE
          (RHODIUM(W) TRICHLORIDE)
L6      8 L5 AND RHODIUM TRICHLORIDE
```

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=> d 1-8 bib abs
```

```
L6 ANSWER 1 OF 8 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2001:254895 CAPLUS
DN 134:266716
TI Manufacture of carboxy-containing polymers by living polymerization
IN Sanai, Yasuyuki
PA Toa Gosei Chemical Industry Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 4 pp.
   CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1
```

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	JP 2001098008	A2	20010410	JP 1999-278840	19990930 <--
PRAI	JP 1999-278840		19990930		
AB	Title polymers are manufactured by atom-transfer radical living polymerization of CO ₂ H-containing vinyl monomers. Thus, methacrylic acid was polymerized in the presence of chlorotris(triphenylphosphine)rhodium(I) and 1-phenylethyl bromide for 24 h to give a polymer with Mn 165,00 and Mw/Mn 1.54 in conversion 82.3%.				

```
L6 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1995:655922 CAPLUS
DN 123:169069
TI HRh[P(OPh)3]4 as a hydrogenation and isomerization catalyst
AU Coolen, H. K. A. C.; Nolte, R. J. M.; van Leeuwen, P. W. N. M.
CS Nijmegen SON Research Center, Department of Organic Chemistry, University
   of Nijmegen, Toemooiveld, ED Nijmegen, 6525, Neth.
SO Journal of Organometallic Chemistry (1995), 496(2), 159-68
   CODEN: JORCAI; ISSN: 0022-328X
PB Elsevier Sequoia
DT Journal
LA English
OS CASREACT 123:169069
AB The preparation and reactions of [HRh[P(OPh)3]4] (2) have been investigated.
```

The metalation product $[(\text{PhO})_2(\text{C}_6\text{H}_4\text{OP})\text{Rh}[\text{P}(\text{OPh})_3]_3]$ (4) has been characterized by ^{31}P NMR spectroscopy. Catalytic hydrogenation of alkenes with 2 depends strongly on the amount of extra ligand added and the substrate (1-hexene, Z,E-2-hexene and allylbenzene). Without added phosphite, traces of $[(\text{HRh}[\text{P}(\text{OPh})_3]_2)_2]$ are the actual catalyst. Under these conditions the reaction is zero order in substrate. The kinetics are completely different when extra tri-Ph phosphite is present. Complex 2 behaves as a catalyst with a character in between that of $\text{ClRh}(\text{PPh}_3)_3$ and cationic $\text{Rh}(\text{diphosphine})^+$.

L6 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1991:43174 CAPLUS

DN 114:43174

TI Metal trisodium tris(m-sulfophenyl)phosphine catalysts for reduction and coupling reactions

IN Herrmann, Wolfgang Anton; Kulpe, Juergen; Kellner, Juergen; Riepl, Herbert

PA Hoechst A.-G., Germany

SO Ger. Offen., 15 pp.

CODEN: GWXXBX

DT Patent

LA German

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 3840600	A1	19900607	DE 1988-3840600	19881202 <--
	EP 372313	A2	19900613	EP 1989-121708	19891124 <--
	EP 372313	A3	19921028		
	EP 372313	B1	19970305		
	R: AT, DE, ES, FR, GB, SE				
	HU 52104	A2	19900628	HU 1989-6164	19891124 <--
	ZA 8909003	A	19900829	ZA 1989-9003	19891124 <--
	EP 668287	A2	19950823	EP 1995-108099	19891124 <--
	EP 668287	A3	19980812		
	EP 668287	B1	20000524		
	R: AT, DE, ES, FR, GB, SE				
	EP 672674	A2	19950920	EP 1995-108100	19891124 <--
	EP 672674	A3	19980812		
	EP 672674	B1	20000524		
	R: AT, DE, ES, FR, GB, SE				
	AT 149502	E	19970315	AT 1989-121708	19891124 <--
	ES 2100844	T3	19970701	ES 1989-121708	19891124 <--
	AT 193291	E	20000615	AT 1995-108099	19891124 <--
	AT 193292	E	20000615	AT 1995-108100	19891124 <--
	ES 2147246	T3	20000901	ES 1995-108100	19891124 <--
	ES 2149908	T3	20001116	ES 1995-108099	19891124 <--
	US 5057618	A	19911015	US 1989-444556	19891130 <--
	CA 2004441	AA	19900602	CA 1989-2004441	19891201 <--
	CA 2004441	C	19950328		
	AU 8945721	A1	19900607	AU 1989-45721	19891201 <--
	AU 618427	B2	19911219		
	JP 02211254	A2	19900822	JP 1989-310797	19891201 <--
	JP 06033292	B4	19940502		
	US 5155274	A	19921013	US 1992-822943	19920121 <--
PRAI	DE 1988-3840600	A	19881202		
	DE 1989-3921295	A	19890629		
	EP 1989-121708	A3	19891124		
	US 1989-444556	A3	19891130		
	US 1991-722905	A3	19910628		
AB	Complexes of VII A, VIII A, and IB element-containing compds. with $\text{P}(\text{C}_6\text{H}_4\text{SO}_3\text{Na}-3)_3$ (I) (TPPTS), with the exception of the bis(cyclooctadienyl)nickel-derived complex, were prepared as hydrogenation and coupling catalysts. Thus, a mixture of $\text{Rh}(\text{NO})(\text{PPh}_3)_3$ and I was stirred 24 h at 25° in $\text{PhMe}/\text{H}_2\text{O}$ to give 73% $\text{Rh}(\text{NO})(\text{TPPTS})_3 \cdot 3\text{H}_2\text{O}$. This was used to hydrogenate cyclohexene and cyclooctene.				

L6 ANSWER 4 OF 8 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1989:489282 CAPLUS

DN 111:89282

TI Water gas shift reaction in liquid phase: catalysis by water-soluble

phosphine complexes of rhodium
AU Chepaikin, E. G.; Bezruchenko, A. P.; Sal'nikova, E. N.; Jo, Ferenc; Toth,
Z.; Bek, M. T.; Khidekel, M. L.
CS Inst. Strukt. Makrokinet., Chernogolovka, USSR
SO Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1989), (3),
542-9
CODEN: IASKA6; ISSN: 0002-3353
DT Journal
LA Russian
AB $H[Rh(dmgh)2Cl_2]$ ($dmgh_2$ = dimethylglyoxime) reacted with sodium
m-(diphenylphosphino)benzenesulfonate (NaL) to give $Rh(dmgh)2(NaL)Cl$ (I)
and I reacted with CO to give $[Rh(CO)(dmgh)2(NaL)]Cl$ (II).
 $Rh(CO)(NaL)L_1.2H_2O$ (III) and $Rh(NaL)3Cl.6H_2O$ (IV) were prepared from
 $Rh(CO)2L_1$ (HL_1 = 8-hydroxyquinoline) or $RhCl_3.xH_2O$, resp., and NaL.
Treatment of $Rh(NaL)3Cl.6H_2O$ with CO gave $Rh(CO)Cl(NaL)_2$ (V) which reacted
with NaL and subsequently with $NaBH_4$ or with NaOH to give $Rh(CO)H(NaL)_3$
(VI) or $Rh(CO)(NaL)_2(OH).4H_2O$ (VII), resp. $[Rh(dmgh)2(PPh_3)(OH)]KCl$ was
prepared from $Rh(dmgh)2(PPh_3)Cl$ and KOH. II reacted with H_2O in presence of
NaOH to give H , CO_2 and $Rh(dmgh)2(NaL)H$ (VIII) and $Rh_2(dmgh)_4(NaL)_2$ (IX).
The catalytic activity of II, VI, VII, VIII and IX was studied in the
water gas shift reaction. The effect of amines and the nature of the Rh
complexes (III, IV, V) was studied on the catalytic activity for the water
gas shift reaction. The amines act as acceptors of HCl and promote the
formation of catalytically active $Rh(1+)$ complexes, not containing a halo
group. Mechanisms are proposed for the water gas shift reaction in the
presence of these $Rh(1+)$ complexes.

L6 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1989:75756 CAPLUS
DN 110:75756

TI Structure and catalytic activity of supported metal complexes. 2.
Synthesis of rhodium complexes supported on silica gel modified by
phosphorus- and nitrogen-containing ligands

AU Dovganyuk, V. F.; Lafer, L. I.; Isaeva, V. I.; Dykh, Zh. L.; Yakerson, V.
I.; Sharf, V. Z.
CS Inst. Org. Khim. im. Zelinskogo, Moscow, USSR
SO Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1987), (12),
2660-5
CODEN: IASKA6; ISSN: 0002-3353

DT Journal
LA Russian
AB Rhodium complexes containing $[RhCl(COD)]_2$ (COD = cyclooctadiene), $RhCl(PPh_3)_3$
and $RhCl_3$ supported on $-OSi(OEt)(CH_2)_3NHR$ ($R = H, PPh_2$) containing silica gel
were prepared by treating the silica gel with the Rh chlorides. The
catalytic activity and selectivity of the complexes in the hydrogenation
and isomerization of allylbenzene depends on the nature of the ligand,
degree of ligand exchange, and properties of the solvent used.

L6 ANSWER 6 OF 8 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1987:508185 CAPLUS
DN 107:108185

TI Rhodium(I) production during the oxidation by water of a hydrosoluble
phosphine

AU Larpent, C.; Dabard, R.; Patin, H.
CS Lab. Chim. Org., Ec. Natl. Super. Chim. Rennes, Rennes-Beaulieu, 35700,
Fr.
SO Inorganic Chemistry (1987), 26(17), 2922-4
CODEN: INOCAJ; ISSN: 0020-1669

DT Journal
LA English

AB Hydrosol. $P(m-C_6H_5SO_3Na)_3$ (TPPTS) dissolved in deoxygenated H_2O is readily
oxidized when $RhCl_3.3H_2O$ is added. $OP(m-C_6H_5SO_3Na)_3$ (OTPPPTS) is labeled
when the reaction is performed in $18OH_2$ thus proving that a redox reaction
between H_2O , $RhCl_3$ and TPPTS occurs and leads to the production of $Rh(I)$.
 $RhCl(TPPTS)_3$, $RhCl(TPPTS)_2$ and $[RhCl(TPPTS)_2]_2$ were characterized in solution
by their ^{31}P NMR spectra. These $Rh(I)$ complexes are slowly transformed
into OTPPPTS at a rate depending inter alia on TPPTS:Rh ratio. A main role
is played by $RhCl_2(OH)(H_2O)_n$ arising from the hydrolysis of $RhCl_3.3H_2O$;
arguments and facts are given to support this assumption.

L6 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1980:506141 CAPLUS
DN 93:106141

TI Reactions of carbon oxide sulfide with rhodium(I) complexes and with
rhodium chloride trihydrate in the presence of triphenylphosphine,
triphenylarsine, or triphenylstibine

AU Datta, Someswar; Pandey, Krishna K.; Agarwala, Umesh C.
CS Dep. Chem., Indian Inst. Technol., Kanpur, 208016, India
SO Inorganica Chimica Acta (1980), 40(1), 65-70
CODEN: ICHAA3; ISSN: 0020-1693

DT Journal

LA English

AB The reactions of COS with some Rh(I) complexes, and with RhCl3.3H2O in the
presence of excess of PPh3, AsPh3, or SbPh3 were investigated. The
products were characterized by elemental analyses and IR spectra. In most
cases COS acts as a carbonylating agent but in some cases it forms SPPPh3
or SASPh3 complexes. Mol. COS complexes were also obtained.

L6 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1977:600664 CAPLUS
DN 87:200664

TI Mechanism of decarbonylation of acid chlorides with
chlorotris(triphenylphosphine)rhodium(I) structure and stereochemistry

AU Lau, K. S. Y.; Becker, Y.; Huang, F.; Baenziger, N.; Stille, J. K.
CS Dep. Chem., Univ. Iowa, Iowa City, IA, USA

SO Journal of the American Chemical Society (1977), 99(17), 5664-72
CODEN: JACSAT; ISSN: 0002-7863

DT Journal

LA English

AB The stoichiometric decarbonylation of (S)-(+)-PhCHDCOCl with Rh(PPh3)3Cl
resulted in the formation of trans-(OC)Rh(PPh3)2Cl (I) and (S)-(+)-PhCHDCl
with 20-7% overall stereospecificity. The decarbonylation of acid
chlorides using Rh(PPh3)336Cl gave an even distribution of 36Cl among the
products (alkyl chloride, I and unreacted starting material) in agreement
with a rapid equilibrium in the formation of the rhodium(III)-acyl complex and
an equivalence of the Cl atoms in the acyl complex. The structure of the
rhodium(III)-acyl complex was elucidated by IR, 31P NMR and x-ray
crystallog. studies. The stoichiometric decarbonylation of C6D5CD2CH2COCl
afforded a mixture of all possible C6D5CR:CR1R2 (R, R1, R2 = H, D), but the
catalytic decarbonylation gave C6D5CD:CH2 as the exclusive organic product.
The H isotope exchange is a result of inter- and intramol. H- transfer
mechanisms. The rates of decarbonylation exhibited a D isotope effect of
1.2. These results favor a mechanism in which a rapid preequil. between
the acyl- and alkyl-Rh complexes is followed by the rate-determining step, a
concerted cis elimination of Rh hydride.

=> s 15 and triphenylphosphine
38902 TRIPHENYLPHOSPHINE
L7 65 L5 AND TRIPHENYLPHOSPHINE

=> d 1-65 bib abs

L7 ANSWER 1 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN
AN 2003:565642 CAPLUS
DN 139:126895

TI Procedure for the production of chlorotris(triphenylphosphine
)rhodium(I).

IN Walter, Richard; Meyer, Horst
PA W. C. Heraeus G.m.b.H. & Co. K.-G., Germany
SO Ger. Offen., 8 pp.
CODEN: GWXXBX

DT Patent

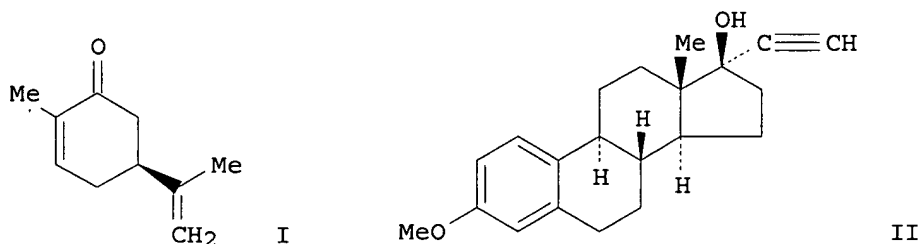
LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 10200572	A1	20030724	DE 2002-10200572	20020109 <--

DE 10200572 B4 20040129
 WO 2005005448 A1 20050120 WO 2003-EP7292 20030708
 W: BR, JP, US, ZA
 RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
 IT, LU, MC, NL, PT, RO, SE, SI, SK, TR
 BR 2003014067 A 20050705 BR 2003-14067 20030708
 PRAI DE 2002-10200572 A 20020109
 WO 2003-EP7292 A 20030708
 OS CASREACT 139:126895
 AB A procedure for the preparation of RhCl(PPh₃)₃ is described by reaction of
 RhCl₃ solution with PPh₃, following cooling and filtering, whereby the mixture
 of the reactants is treated in the way that (a) in a 1st stage is warmed
 up to for instance 30°, (b) in a 2nd stage warming from
 .apprx.30-75° is continued, (c) and the reaction mixture is held at
 80-110°. The procedure leads to improvements of the yield and the
 quality of the received crystals.
 RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 2 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN
 AN 2003:190579 CAPLUS
 DN 139:68712
 TI ROMPg_{el}-supported tris(triphenylphosphine)rhodium(I) chloride: a
 selective hydrogenation catalyst for parallel synthesis
 AU Arstad, Erik; Barrett, Anthony G. M.; Tedeschi, Livio
 CS Department of Chemistry, Imperial College of Science, Technology and
 Medicine, London, SW7 2AY, UK
 SO Tetrahedron Letters (2003), 44(13), 2703-2707
 CODEN: TELEAY; ISSN: 0040-4039
 PB Elsevier Science Ltd.
 DT Journal
 LA English
 OS CASREACT 139:68712
 GI



AB ROMPg_{el}-supported tris(triphenylphosphine)rhodium(I) chloride
 has been prepared and the immobilized catalyst has been effectively employed
 in selective hydrogenations of a variety of alkenes, e.g. I, and terminal
 alkynes, e.g. II.
 RE.CNT 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 3 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN
 AN 2002:347392 CAPLUS
 DN 136:326010
 TI Method for recovering hydrogenation catalysts and manufacture of
 hydrogenated chloroprene polymers using recovered catalysts
 IN Masuko, Yoshihiro; Matsuda, Hidehiro; Takazuka, Kanekichi
 PA Denki Kagaku Kogyo Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1
 PATENT NO. KIND DATE APPLICATION NO. DATE

PI JP 2002128822 A2 20020509 JP 2000-326414 20001026 <--
PRAI JP 2000-326414 20001026

OS MARPAT 136:326010

AB The method is characterized in that separating hydrogenation catalysts from hydrogenated chloroprene polymer solns. by using poor solvents. Thus, hydrogenating chloroprene-1-chloro-1,3-butadiene copolymer in the presence of chlorotris(triphenylphosphine)rhodium and triphenylphosphine, dropping MeOH into the copolymer solution, filtrating the solution for separating precipitated copolymer, and concentrating the resulting solution resulted in catalyst recovery .apprx.93%.

L7 ANSWER 4 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2001:254895 CAPLUS

DN 134:266716

TI Manufacture of carboxy-containing polymers by living polymerization

IN Sanai, Yasuyuki

PA Toa Gosei Chemical Industry Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2001098008	A2	20010410	JP 1999-278840	19990930 <--
PRAI	JP 1999-278840		19990930		

AB Title polymers are manufactured by atom-transfer radical living polymerization of CO₂H-containing vinyl monomers. Thus, methacrylic acid was polymerized in the presence of chlorotris(triphenylphosphine)rhodium(I) and 1-phenylethyl bromide for 24 h to give a polymer with Mn 165,00 and Mw/Mn 1.54 in conversion 82.3%.

L7 ANSWER 5 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN

AN 2001:57809 CAPLUS

DN 134:198647

TI The effect of pH on the reactions of catalytically important RhI complexes in aqueous solution: reaction of [RhCl(tppps)₃] and trans-[RhCl(CO)(tppps)₂] with hydrogen (TPPMS = mono-sulfonated triphenylphosphine)

AU Joo, Ferenc; Kovacs, Jozsef; Benyei, Attila Cs.; Nadasdi, Levente; Laurenczy, Gabor

CS Institute of Physical Chemistry, University of Debrecen, Debrecen, 4010, Hung.

SO Chemistry--A European Journal (2001), 7(1), 193-199
CODEN: CEUJED; ISSN: 0947-6539

PB Wiley-VCH Verlag GmbH

DT Journal

LA English

AB Hydrolysis and hydrogenation of [RhCl(tppps)₃] (1) and trans-[RhCl(CO)(tppps)₂] (2) was studied in aqueous solns. in a wide pH range (2< pH <11) in the presence of excess TPPMS (3-diphenylphosphinyl-benzenesulfonic acid sodium salt). In acidic solns. hydrogenation of 1 yields a mixture of cis-mer-and cis-fac-[RhClH₂-(tppps)₃] (3a,b) while in strongly basic solns. [RhH(H₂O)(tppps)₃] (4) is obtained, the midpoint of the equilibrium between these hydride species being at pH 8.2. The paper gives the first successful 1H and 31P NMR spectroscopic characterization of a water soluble rhodium(I)-monohydride (4) bearing only monodentate phosphine ligands. Hydrolysis of 2 is negligible below pH 9 and its hydrogenation results in formation of [Rh(CO)H(tppps)₃] (5), which is an analog to the well known and industrially used hydroformylation catalyst [Rh(CO)H(tppts)₃] (6) (TPPTS=3,3',3"-phosphinetriyltris(benzenesulfonic acid) trisodium salt). It was shown by pH-potentiometric measurements that formation of 5 is strongly pH dependent in the pH 5-9 range; this gives an explanation for the observed but previously unexplained pH dependence of several hydroformylation reactions. Conversely, the effect of pH on the rate of hydrogenation of maleic and fumaric acid catalyzed by 1 in the 2< pH<7 range can be adequately described by considering solely the changes in the ionization state of these substrates. All these results warrant the use

of buffered (pH-controlled) solns. for aqueous organometallic catalysis.
RE.CNT 91 THERE ARE 91 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 6 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1999:818960 CAPLUS
DN 132:51452
TI Manufacture of 2,3-dihalopropanols using a transition metal catalyst with
reduced halogenated waste formation
IN Thomas, P. J.; Pews, R. Garth; Vosejpka, Paul C.; Frycek, George J.
PA The Dow Chemical Company, USA
SO U.S., 9 pp., Cont.-in-part of U.S. 5,744,655.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 6008419	A	19991228	US 1997-994208	19971219 <--
	US 5744655	A	19980428	US 1996-667526	19960619 <--
	CN 1222136	A	19990707	CN 1997-195589	19970605 <--
	CN 1092173	B	20021009		
	ES 2177986	T3	20021216	ES 1997-929694	19970605 <--
	KR 2000016802	A	20000325	KR 1998-710414	19981218 <--
PRAI	US 1996-667526	A2	19960619		
AB	2,3-Dihalopropanal is reacted with mol. hydrogen in the presence of a transition metal-containing catalyst, under conditions such that 2,3-dihalopropanol is formed. Preferably the reaction mixture contains an aprotic or protic solvent, which activates the catalyst and stabilizes the dihalopropanol by formation of an equilibrium concentration of hydrate or hemiacetal. The reaction is particularly useful, for example, as Step (3) in a process of making epihalohydrin by (1) reacting a 3-carbon hydrocarbon with an oxidizing agent to form acrolein; (2) reacting acrolein with a mol. halogen to form 2,3-dihalopropanal; (3) reducing 2,3-dihalopropanal with mol. hydrogen to form 2,3-dihalopropanol; and (4) cyclizing 2,3-dihalopropanol to make epihalohydrin. The process produces epihalohydrin using only about one mol of halogen per mol of epihalohydrin and uses substantially less water than existing processes. Thus, 50 g 2,3-dichloropropanal was added slowly to a solvent mixture comprising 10 g 1-cyclohexyl-2-pyrrolidinone and 50 mL MeOH and the mixture charged into a reactor containing 2 g tris(triphenylphosphine)ruthenium(II) dichloride, pressurized with hydrogen to .apprx.1000 psig, and heated 3 h at 85° with MeOH removal, giving 46.1 g 2,3-dichloropropanol (91% yield).				

RE.CNT 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 7 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1999:113596 CAPLUS
DN 130:169812
TI Supported diols, ligands containing two phosphorus atoms, and transition-metal complexes for catalysts
IN Druliner, Joseph D.; Moloy, Kenneth Gene; Wang, Manxue
PA E. I. Du Pont de Nemours & Co., USA
SO PCT Int. Appl., 83 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9906146	A2	19990211	WO 1998-US15199	19980723 <--
	WO 9906146	A3	19990408		
	W: BR, CA, CN, ID, JP, KR, SG RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	US 6121184	A	20000919	US 1998-111942	19980708 <--
	ZA 9806373	A	20000117	ZA 1998-6373	19980717 <--
	EP 1003607	A2	20000531	EP 1998-935940	19980723 <--

EP 1003607	B1	20031217		
R: BE, DE, FR, GB, IT, NL				
EP 1214975	A2	20020619	EP 2002-75394	19980723 <--
EP 1214975	A3	20020626		
R: BE, DE, FR, GB, IT, NL				
TW 592821	B	20040621	TW 1998-87112471	19980904
HK 1026383	A1	20040716	HK 2000-105639	20000907
PRAI US 1997-54003P	P	19970729		
EP 1998-935940	A3	19980723		
WO 1998-US15199	W	19980723		

AB Diols supported, especially on polymers are reacted with ligands containing 2 P atoms and optionally, transition-metal complexes to give catalysts useful for hydrocyanation of unsatd. organic compds., hydrogenation olefins, and hydrosilylation. Optionally, the transition metal complexes are used with the supported P ligands for the catalysts. These catalysts are insol. and nonvolatile, and the polymer-supported metal complexes exhibit low metal leaching. Thus, reaction of pentaerythritol with oxidized Merrifield's resin, and reaction of the intermediate with PPh₂Cl gave a polymer-supported ligand. Hydrocyanation of butadiene with HCN 3 h at 80° in the presence the resulting polymer-supported ligand and nickelbis(1,5-cyclooctadiene) gave 27.4% pentenenitrile with the 3-pentenenitrile-2-methyl-3-butene ratio being 1.29.

L7 ANSWER 8 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN
 AN 1998:680497 CAPLUS
 DN 130:95587

TI Metal-catalyzed multiple boration of ketimines
 AU Cameron, Thomas M.; Baker, R. Tom; Westcott, Stephen A.
 CS MS J514, Chemical Science and Technology Division, Los Alamos National Laboratory, Los Alamos, NM, 87545, USA
 SO Chemical Communications (Cambridge) (1998), (21), 2395-2396
 CODEN: CHCOFS; ISSN: 1359-7345

PB Royal Society of Chemistry
 DT Journal
 LA English

AB Metal-catalyzed addition of B₂cat'2 (cat' = 4-But-1,2-O₂C₆H₃) to ketimines, RCH₂C(Ph):NAr (I; R = H, Ar = Ph, C₆H₄X, X = p-CF₃, o-OMe; R = Me, Ar = C₆H₄OMe-p; R = Me, Ar = C₆H₄CF₃-p) affords N-borylenamines, e.g., RCH:CPHNPbcat', and HBcat' using metal catalysts such as RhCl(PPh₃)₃ or Pt(dba)₂. Analogous catalyzed reactions of ketimines I with HBcat' in THF afford multiply borated products, providing the 1st examples of metal-catalyzed hydroboration of enamines.

RE.CNT 33 THERE ARE 33 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 9 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN
 AN 1998:626693 CAPLUS
 DN 130:67609

TI Catalytic hydrogenation of nitrile-butadiene copolymers by cationic rhodium complexes

AU Mao, Tian-Fu; Rempel, Garry L.
 CS Department of Chemical Engineering, University of Waterloo, Waterloo, ON, N2L 3G1, Can.

SO Journal of Molecular Catalysis A: Chemical (1998), 135(2), 121-132
 CODEN: JMCCF2; ISSN: 1381-1169

PB Elsevier Science B.V.
 DT Journal
 LA English

AB The hydrogenation of nitrile-butadiene copolymers (NBR), catalyzed by a series of cationic Rh complexes [Rh(diene)(L₂)]⁺ (diene=norbornadiene (NBD) and 1,5-cyclooctadiene (COD); L₂=(PPh₃)₂, Ph₂P(CH₂)_nPPh₂ (n=2, 3 and 4); Cy₂P(CH₂)₂PCy₂), was studied under 3.42 MPa H pressures at 140° in PhCl. The general activity patterns found include: (1) the activity of complexes [Rh(diene)(PPh₃)₂]⁺ is similar to that of Wilkinson catalyst RhCl(PPh₃)₃; (2) with chelating diphosphines, the activity of complexes [Rh(diene)(L₂)]⁺ increases with the increase of the chain length of the diphosphine; (3) complexes [Rh(diene)(PPh₃)₂]⁺ are more active catalysts than those containing chelating phosphines. These results demonstrate that

there are a number of similarities and remarkable differences between the hydrogenation of NBR and the hydrogenation of simple olefins, mainly attributed to the steric effect of olefins. In contrast to simple olefin hydrogenation where the coordination of olefin to a metal center is typically facile, this step becomes rate-determining in the case of the hydrogenation of large olefins such as NBR. To determine the effects of the factors on the reaction, such as catalyst concentration, polymer concentration, H pressure and temperature, a detailed kinetic study on the reaction catalyzed by complex $[Rh(NBD)(PPh_3)_2]^+$ was carried out. On the basis of the kinetic results and the related statistical anal., both a reaction pathway and a reaction rate law are proposed. The dilute solution viscosities of fully hydrogenated NBR were independent of reaction conditions employed, suggesting that the properties of hydrogenated NBR are uniform.

RE.CNT 29 THERE ARE 29 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 10 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1998:434499 CAPLUS
DN 129:210809
TI Syntheses of water-soluble phosphines and their transition metal complexes
AU Herrmann, Wolfgang A.; Kohlpaintner, Christian W.; Hanson, Brian E.; Kang, Xianxing
CS Technische Universität München, Garching, D-85747, Germany
SO Inorganic Syntheses (1998), 32, 8-25
CODEN: INSYA3; ISSN: 0073-8077
PB John Wiley & Sons, Inc.
DT Journal
LA English
AB $P(Ph)_3$, 1,1'-binaphthalene-2,2'-diylbis(methylene)bis(diphenylphosphine), and 5-H-phenyl-dibenzophosphole react with oleum and H_3BO_3 to give the sulfonated products $PhP(C_6H_4-m-SO_3Na)_2$, $P(C_6H_4-m-SO_3Na)_3$, octasodium 2,2'-bis[methyl(sulfophenyl)phosphinediyl]-1,1'-binaphthalene-4,4',7,7'-octasulfonate, and disodium 5H-1-(3'-sulfophenyl)dibenzophosphole-4-sulfonate. $P(C_6H_4-m-SO_3Na)_3$ reacts with cobalt, rhodium, palladium, and nickel salts and complexes.

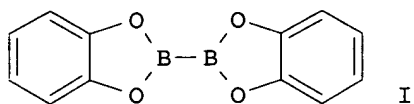
RE.CNT 49 THERE ARE 49 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 11 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1998:434498 CAPLUS
DN 129:197080
TI (Meta-sulfonatophenyl)diphenylphosphine, sodium salt and its complexes with rhodium(I), ruthenium(II), iridium(I)
AU Joo, Ferenc; Kovacs, Jozsef; Katho, Agnes; Benyei, Attila C.; Decuir, Tara; Darensbourg, Donald J.
CS Institute of Physical Chemistry, Lajos Kossuth University, Debrecen, H-4010, Hung.
SO Inorganic Syntheses (1998), 32, 1-8
CODEN: INSYA3; ISSN: 0073-8077
PB John Wiley & Sons, Inc.
DT Journal
LA English
AB **Triphenylphosphine** was reacted with SO_3 and then NaOH to give the sodium salt of (meta-sulfonatophenyl)diphenylphosphine, TPPMS, in 51% yield; 29% after recrystn. TPPMS was used to prepare water-soluble transition metal complexes. $RhCl_3 \cdot 3H_2O$ reacted with TPPMS to give $RhCl(TPPMS)_3$ in 70% yield. The dimeric complex $[RuCl_2(TPPMS)_2]_2$ was prepared from the reaction of $RuCl_2(PPh_3)_3$ with TPPMS in 92% yield. $Trans-IrCl(CO)(PPh_3)_2$ reacted with TPPMS to give $trans-IrCl(CO)(TPPMS)_2$ in 71% yield.

RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 12 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1998:10313 CAPLUS
DN 128:135699
TI Boron-boron bond oxidative addition to rhodium(I) and iridium(I) centers
AU Clegg, William; Lawlor, Fiona J.; Marder, Todd B.; Nguyen, Paul; Norman, Nicholas C.; Orpen, A. Guy; Quayle, Michael J.; Rice, Craig R.; Robins,

Edward G.; Scott, Andrew J.; Souza, Fabio E. S.; Stringer, Graham;
Whittell, George R.
CS Department of Chemistry, The University of Newcastle, Newcastle upon Tyne,
NE1 7RU, UK
SO Journal of the Chemical Society, Dalton Transactions: Inorganic Chemistry
(1998), (2), 301-310
CODEN: JCOTBI; ISSN: 0300-9246
PB Royal Society of Chemistry
DT Journal
LA English
GI



AB The reaction between the diborane(4) compound B2(1,2-O2C6H4)2 (I) and either of the rhodium(I) complexes [RhCl(PPh3)3] or [{Rh(μ-Cl)(PPh3)2}2] afforded the colorless rhodium(III) bis(boryl) species [RhCl(PPh3)2{B(1,2-O2C6H4)}2]. Similar reactions were carried out with the diborane(4) compds. B2(1,2-O2-4-ButC6H3)2, B2(1,2-O2-3,5-But2C6H2)2, B2(1,2-O2-3-MeC6H3)2, B2(1,2-O2-4-MeC6H3)2, B2(1,2-O2-3-MeOC6H3)2, B2(1,2-S2C6H4)2, B2(1,2-S2-4-MeC6H3)2 and B2[R,R-1,2-O2CH(CO2Me)CH(CO2Me)]2 affording analogous rhodium complexes all of which were characterized spectroscopically. The complexes derived from the reactions with B2(1,2-O2C6H4)2 and B2(1,2-O2-3-MeC6H3)2 also were characterized by x-ray crystallog., the structures comprising a five-coordinate rhodium center with a square-based-pyramidal geometry in which the apical site is occupied by a boryl group and the phosphines are mutually trans in basal positions. Reactivity studies also were carried out for [RhCl(PPh3)2{B(1,2-O2C6H4)}2]. Hydrolysis or alcoholysis with catechol afforded [RhH2Cl(PPh3)3] and either B2(1,2-O2C6H4)2(μ-O) or B2(1,2-O2C6H4)3 and addition of the phosphines PMe3, PET3 and PMe2Ph afforded the new bis(boryl) compds. cis,mer-[RhCl(PMe3)3{B(1,2-O2C6H4)}2], [RhCl(PET3)2{B(1,2-O2C6H4)}2] and cis,mer-[RhCl(PMe2Ph)3{B(1,2-O2C6H4)}2], the PET3 complex having been characterized by x-ray crystallog. and shown to be similar to the PPh3 complex. The iridium analog [IrCl(PET3)2{B(1,2-O2C6H4)}2] was also prepared from the reaction between [IrCl(PET3)3] and B2(1,2-O2C6H4)2 and shown by x-ray crystallog. to be isomorphous with the rhodium complex. Reactions between [RhCl(PPh3)2{B(1,2-O2C6H4)}2] and the phosphines PPri3, P(C6H11)3, 1,2-bis(diphenylphosphino)ethane (dppe) and 1,2-bis(dicyclohexylphosphino)ethane (dcpe) are also described although these do not result in new rhodium boryl complexes. The reaction between [{RhCl(dppe)}2] and B2(1,2-O2C6H4)2 afforded a compound tentatively assigned as [Rh(dppe)2{B(1,2-O2C6H4)}] with analogous compds. being formed with the diborane(4) compds. B2(1,2-O2-3-MeC6H3)2 and B2(1,2-O2-4-MeC6H3)2. Finally, the reaction between [Rh(PMe3)4]Cl and the diborane(4) compound B2(1,2-O2C6H4)2 is described which affords cis,mer-[RhCl(PMe3)3{B(1,2-O2C6H4)}2]. Analogous reactions with B2(1,2-O2-3,5-But2C6H2)2, B2(1,2-O2-3-MeC6H3)2 and B2[R,R-1,2-O2CH(CO2Me)CH(CO2Me)]2 afforded similar products.

RE.CNT 56 THERE ARE 56 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L7 ANSWER 13 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1996:477611 CAPLUS
DN 125:236788
TI Carbonylation reactions of Rh(PPh3)3Cl and Ru(PPh3)3Cl2 in the solid state
AU Porta, Francesca; Tollari, Stefano; Bianchi, Claudia; Recchia, Sandro
CS Dipartimento di Chimica Inorganica, Metallorganica ed Analitica, and
Centro CNR, Via Venezian 21, Milan, 20133, Italy
SO Inorganica Chimica Acta (1996), 249(1), 79-84
CODEN: ICHAA3; ISSN: 0020-1693
PB Elsevier

DT Journal
 LA English
 AB The carbonylation reactions of Rh(PPh₃)₃Cl and Ru(PPh₃)₃Cl₂ in the solid state with carbon monoxide at atmospheric pressure were studied; the known complexes Rh(PPh₃)₂(CO)Cl and Ru(PPh₃)₂(CO)₂Cl₂, previously prepared in solution, were obtained under these conditions. These reactions were revisited with techniques useful for the characterization of compds. in the solid state. In the case of the carbonylation reaction of Rh(PPh₃)₃Cl, the pentacoordinated species Rh(PPh₃)₃(CO)Cl is strongly indicated as the reaction intermediate.

L7 ANSWER 14 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1995:496286 CAPLUS

DN 123:227748

TI The vinylation of aryl iodides catalyzed by Co, Rh and Ir complexes

AU Iyer, Suresh

CS Chemical Engineering Division, National Chemical Laboratory, Pune, 411 008, India

SO Journal of Organometallic Chemistry (1995), 490(1-2), C27-C28

CODEN: JORCAI; ISSN: 0022-328X

PB Elsevier

DT Journal

LA English

OS CASREACT 123:227748

AB The CoCl(PPh₃)₃, RhCl(PPh₃)₃, and IrClCO(PPh₃)₂ catalyzed vinylation of aryl iodides proceeds to give cinnamates and stilbene in high yields. PhI, Me acrylate, K₂CO₃ and RhCl(PPh₃)₃, followed by 1-methylpyrrolidinone as solvent were reacted at aao° for 24 h to give PhCH:CHCO₂Me.

L7 ANSWER 15 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1994:631047 CAPLUS

DN 121:231047

TI α,b-unsaturated carbonyl compound 1,4-O-silylation process and catalysts

IN Bruno, Salvatore A.

PA du Pont de Nemours, E. I., and Co., USA

SO U.S., 10 pp. Cont.-in-part of U.S. Ser. No. 266,891, abandoned.

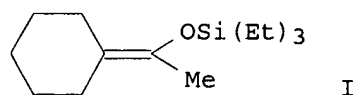
CODEN: USXXAM

DT Patent

LA English

FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5332852	A	19940726	US 1991-713531	19910603 <--
	US 4785126	A	19881115	US 1985-727813	19850426 <--
PRAI	US 1985-727813	B3	19850426		
	US 1988-266891	B2	19881103		
OS	MARPAT 121:231047				
GI					



AB α,β-Unsatd. carbonyl compds. are subjected to 1,4-O-metalation by reaction with a silicon hydride HSiR₄(R₅)R₆ [R₄-R₆ = (un)branched (un)substituted alkyl, aryl, etc.] in the presence of a noncomplexed Rh-containing catalyst. Thus, 1-acetyl-1-cyclohexene was reacted with HSiEt₃ in EtOAc in the presence of a 5% Rh/C catalyst at 50-55°, producing silylation product I in 48% crude yield.

L7 ANSWER 16 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1994:191169 CAPLUS

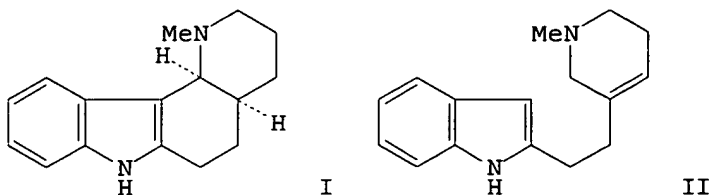
DN 120:191169

TI Part I. Studies toward the synthesis of esperamicin aglycon. Part II. Extension of retro-Claisen rearrangement methodology to tetrahydrooxocene formation. Part III. Studies on the decarbonylation of cyclic β -alkoxy aldehydes; application to the synthesis of medium ring ethers
 AU Stolz, Lesley Ann
 CS Univ. Rochester, Rochester, NY, USA
 SO (1992) 236 pp. Avail.: Univ. Microfilms Int., Order No. DA9218560
 From: Diss. Abstr. Int. B 1992, 53(2), 857
 DT Dissertation
 LA English
 AB Unavailable

L7 ANSWER 17 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN
 AN 1993:484648 CAPLUS
 DN 119:84648
 TI Observation of H₂ oxidative addition to chlorocarbonylbis(triphenylphosphine)rhodium(I) using parahydrogen induced polarization
 AU Duckett, Simon B.; Eisenberg, Richard
 CS Dep. Chem., Univ. Rochester, Rochester, NY, 14627, USA
 SO Journal of the American Chemical Society (1993), 115(12), 5292-3
 CODEN: JACSAT; ISSN: 0002-7863
 DT Journal
 LA English
 AB The increase in NMR sensitivity associated with using para-enriched H allows the 1st direct observation of a reaction between RhX(CO)(PPh₃)₂ (X = Cl, Br, I) and H₂. RhH₂(PPh₃)₂(μ -X)₂Rh(PPh₃)CO (I) is detected in the reaction in C₆D₆ at 342 K. I form to only a very limited extent. From ¹H and ³¹P NMR spectroscopy, I contain trans-phosphine ligands and inequivalent hydrides. The presence of the halide substituent is established by comparison of the spectra characteristics of the Cl, Br and I derivs. which yield different hydride resonances. CO is an essential part of the dihydride complex is demonstrated by other reactions.

L7 ANSWER 18 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN
 AN 1993:204063 CAPLUS
 DN 118:204063
 TI A high-yield conversion of trans-carbonylchlorobis(triphenylphosphine)rhodium to chlorotris(triphenylphosphine) rhodium
 AU O'Connor, Joseph M.; Ma, Junning
 CS Dep. Chem., Univ. Nevada, Reno, NV, 89557-0020, USA
 SO Inorganic Chemistry (1993), 32(9), 1866-7
 CODEN: INOCAJ; ISSN: 0020-1669
 DT Journal
 LA English
 AB A high-yield procedure for conversion of trans-Rh(Cl)(CO)(PPh₃)₂ to Rh(Cl)(PPh₃)₃ was achieved by utilization of the com. available diphenylphosphoryl azide as a carbonyl ligand abstraction reagent.

L7 ANSWER 19 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN
 AN 1991:492683 CAPLUS
 DN 115:92683
 TI Synthetic applications of 2-(1,3-dithian-2-yl)indoles. III. A new route to tetracyclic [ABCD] intermediates in the synthesis of Aspidosperma indole alkaloids
 AU Troin, Yves; Diez, Anna; Bettiol, Jean Luc; Rubiralta, Mario; Grierson, David S.; Husson, Henri Philippe
 CS Fac. Pharm., Univ. Barcelona, Barcelona, 08028, Spain
 SO Heterocycles (1991), 32(4), 663-8
 CODEN: HTCYAM; ISSN: 0385-5414
 DT Journal
 LA English
 OS CASREACT 115:92683
 GI



AB The synthesis of tetracyclic [ABCD] framework I of Aspidosperma alkaloids was achieved via allylamine-enamine isomerization using $(\text{Ph}_3\text{P})_3\text{RhCl}$ in hot aqueous acetonitrile of the 1,2,5,6-tetrahydro-3-(indolylethyl)pyridine (II) which in turn was obtained by Raney nickel desulfurization of the corresponding 2-(1,3-dithian-2-yl)indole.

L7 ANSWER 20 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN
 AN 1991:220059 CAPLUS
 DN 114:220059
 TI Chlorotris(triphenylphosphine)rhodium(I) (Wilkinson's catalyst)
 AU Osborn, J. A.; Wilkinson, G.
 CS Chem. Dep., Imp. Coll., London, SW7 2AY, UK
 SO Inorganic Syntheses (1990), 28(Reagents Transition Met. Complex Organomet. Synth.), 77-9
 CODEN: INSYA3; ISSN: 0073-8077
 DT Journal
 LA English
 AB RhCl_3 reacted with PPh_3 in EtOH at reflux to give polymorphs of $\text{RhCl}(\text{PPh}_3)_3$. The red isomer was obtained in 88% yield.

L7 ANSWER 21 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN
 AN 1991:143702 CAPLUS
 DN 114:143702
 TI Trisodium tris(metasulfophenyl)phosphine metal complexes as catalysts
 IN Herrmann, Wolfgang A.; Kulpe, Juergen; Kellner, Juergen; Riepl, Herbert
 PA Hoechst A.-G., Germany
 SO Eur. Pat. Appl., 29 pp.
 CODEN: EPXXDW
 DT Patent
 LA German
 FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 372313	A2	19900613	EP 1989-121708	19891124 <--
	EP 372313	A3	19921028		
	EP 372313	B1	19970305		
	R: AT, DE, ES, FR, GB, SE				
	DE 3840600	A1	19900607	DE 1988-3840600	19881202 <--
	DE 3921295	A1	19910103	DE 1989-3921295	19890629 <--
	EP 668287	A2	19950823	EP 1995-108099	19891124 <--
	EP 668287	A3	19980812		
	EP 668287	B1	20000524		
	R: AT, DE, ES, FR, GB, SE				
	EP 672674	A2	19950920	EP 1995-108100	19891124 <--
	EP 672674	A3	19980812		
	EP 672674	B1	20000524		
	R: AT, DE, ES, FR, GB, SE				
PRAI	DE 1988-3840600	A	19881202		
	DE 1989-3921295	A	19890629		
	EP 1989-121708	A3	19891124		

AB Complexes of VII A, VII A, and I B elements with $\text{P}(\text{C}_6\text{H}_4\text{SO}_3\text{Na}-3)_3$ (TPPTS) and optional addnl. ligands, e.g. $\text{L}_1\text{wL}_2\text{xMy}(\text{TPPTS})_z$ (L_1 , L_2 = ligands; M = element as above; w , x , y , z = whole nos.; w , x = 0-7; y = 1-6; z \leq 4), were prepared as hydrogenation, hydrocarbonylation, hydroformylation, oxidation, amination, and C-C coupling catalysts. Thus, a mixture of $\text{Co}_2(\text{CO})_8$ and TPPTS in $\text{PhMe}/\text{H}_2\text{O}$ was stirred for 3 h at room temperature to give 81% $\text{Co}_2(\text{CO})_6(\text{TPPTS})_2 \cdot 6\text{H}_2\text{O}$. The latter in H_2O was autoclaved with cyclohexene under 3.0 MPa H for 20 h to give 93% cyclohexane.

L7 ANSWER 22 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN
 AN 1991:94066 CAPLUS
 DN 114:94066
 TI The structure of crystalline trans-dichlorobis(triphenylphosphine)rhodium(II), a square planar rhodium(II) monomer: isolation of the proposed paramagnetic impurity in Wilkinson's catalyst
 AU Ogle, Craig A.; Masterman, T. Craig; Hubbard, John L.
 CS Dep. Chem., Univ. North Carolina, Charlotte, NC, 28223, USA
 SO Journal of the Chemical Society, Chemical Communications (1990), (23), 1733-4
 CODEN: JCCCAT; ISSN: 0022-4936
 DT Journal
 LA English
 AB trans-Rh(PPh3)2Cl2 (I), a square planar Rh(II) monomer, was isolated from reaction of [LRhCl]2 (L = 1,5-cyclooctadiene) and PPh3 and characterized by x-ray diffraction, 1H NMR, far-IR, and EPR spectroscopy, and mass spectrometry. Crystal data: I.CH2Cl2, orthorhombic, space group Pcab, a 8.0565(16), b 20.546(6), c 23.348(7) Å, Z = 4, R = 0.063, Rw = 0.056.

L7 ANSWER 23 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN
 AN 1991:43174 CAPLUS
 DN 114:43174
 TI Metal trisodium tris(m-sulfophenyl)phosphine catalysts for reduction and coupling reactions
 IN Herrmann, Wolfgang Anton; Kulpe, Juergen; Kellner, Juergen; Riepl, Herbert
 PA Hoechst A.-G., Germany
 SO Ger. Offen., 15 pp.
 CODEN: GWXXBX
 DT Patent
 LA German
 FAN.CNT 2

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	DE 3840600	A1	19900607	DE 1988-3840600	19881202 <--
	EP 372313	A2	19900613	EP 1989-121708	19891124 <--
	EP 372313	A3	19921028		
	EP 372313	B1	19970305		
	R: AT, DE, ES, FR, GB, SE				
	HU 52104	A2	19900628	HU 1989-6164	19891124 <--
	ZA 8909003	A	19900829	ZA 1989-9003	19891124 <--
	EP 668287	A2	19950823	EP 1995-108099	19891124 <--
	EP 668287	A3	19980812		
	EP 668287	B1	20000524		
	R: AT, DE, ES, FR, GB, SE				
	EP 672674	A2	19950920	EP 1995-108100	19891124 <--
	EP 672674	A3	19980812		
	EP 672674	B1	20000524		
	R: AT, DE, ES, FR, GB, SE				
	AT 149502	E	19970315	AT 1989-121708	19891124 <--
	ES 2100844	T3	19970701	ES 1989-121708	19891124 <--
	AT 193291	E	20000615	AT 1995-108099	19891124 <--
	AT 193292	E	20000615	AT 1995-108100	19891124 <--
	ES 2147246	T3	20000901	ES 1995-108100	19891124 <--
	ES 2149908	T3	20001116	ES 1995-108099	19891124 <--
	US 5057618	A	19911015	US 1989-444556	19891130 <--
	CA 2004441	AA	19900602	CA 1989-2004441	19891201 <--
	CA 2004441	C	19950328		
	AU 8945721	A1	19900607	AU 1989-45721	19891201 <--
	AU 618427	B2	19911219		
	JP 02211254	A2	19900822	JP 1989-310797	19891201 <--
	JP 06033292	B4	19940502		
	US 5155274	A	19921013	US 1992-822943	19920121 <--
PRAI	DE 1988-3840600	A	19881202		
	DE 1989-3921295	A	19890629		
	EP 1989-121708	A3	19891124		
	US 1989-444556	A3	19891130		
	US 1991-722905	A3	19910628		
AB	Complexes of VII A, VIII A, and IB element-containing compds. with P(C6H4SO3Na-3)3 (I) (TPPTS), with the exception of the				

bis(cyclooctadienyl)nickel-derived complex, were prepared as hydrogenation and coupling catalysts. Thus, a mixture of Rh(NO)(PPh₃)₃ and I was stirred 24 h at 25° in PhMe/H₂O to give 73% Rh(NO)(TPPTS)₃·9H₂O. This was used to hydrogenate cyclohexene and cyclooctene.

L7 ANSWER 24 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1990:531855 CAPLUS
DN 113:131855
TI Studies related to the synthesis of pederin. Part 2. Synthesis of
pederol dibenzoate and benzoylpedamide
AU Willson, Timothy M.; Kocienski, Philip; Jarowicki, Krzysztof; Isaac, Kim;
Hitchcock, Peter M.; Faller, Andrew; Campbell, Simon F.
CS Chem. Dep., Univ. Southampton, Southampton, SO9 5NH, UK
SO Tetrahedron (1990), 46(5), 1767-82
CODEN: TETRAB; ISSN: 0040-4020
DT Journal
LA English
OS CASREACT 113:131855
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The ring B fragments (+)-pederol dibenzoate (I) and (+)-benzoylpedamide (II) of the insect toxin pederin (III) were prepared. An intramol. directed aldol condensation was used to construct the tetrahydropyran ring in I. Better stereocontrol in the synthesis of II was achieved in which the stereochem. at C-11 was introduced by a conjugate addition of Me₃SiCN to the dihydropyranone IV. (+)-III was prepared from (+)-II and the ring A fragment (+)-benzoylselenopederic acid. The crystal structure of 18 epibenzoylpedamide is reported.

L7 ANSWER 25 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1990:228616 CAPLUS
DN 112:228616
TI Water-soluble metal complexes and catalysts. 1. Water-soluble metal complexes of the sulfonated **triphenylphosphine** TPPTS: preparation of the pure complex and its use as a catalyst
AU Herrmann, Wolfgang A.; Kulpe, Juergen A.; Kellner, Juergen; Riepl, Herbert; Bahrmann, Helmut; Konkol, Werner
CS Anorg.-Chem. Inst., Tech. Univ. Muenchen, Garching, D-8046, Germany
SO Angewandte Chemie (1990), 102(4), 408-14
CODEN: ANCEAD; ISSN: 0044-8249
DT Journal
LA German

AB RhCl₃·3H₂O reacted with P(C₆H₄SO₃Na-m)₃ (Na₃L) to give Na₇[RhClL₃] (I), Na₈[Rh(OH)L₃] (II), the oxide of Na₃L, and [Na₄[Ru(μ-OH)L₂]₂]. I reacted with NaBH₄ in H₂O to give II which reacted with CO to give Na₆[Rh(OH)(CO)L₂] (III). Rh(CO)₂(acac) (Hacac = acetylacetone) reacted with Na₃L and CO in presence of H₂O to give III and Na₉[RhH(CO)L₃] which was reversibly converted to III on heating. Isoprene was hydroformylated in the presence of cis-Na₆[PtCl₂L₂·6H₂O]. Na₈[AgL₃] was prepared

L7 ANSWER 26 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1990:119069 CAPLUS
DN 112:119069
TI Rhodium-catalyzed oxidation of a water-soluble phosphine
AU Larpent, Chantal; Dabard, Rene; Patin, Henri
CS Dep. Chim. Org., Ec. Natl. Super. Chim., Rennes, 35700, Fr.
SO New Journal of Chemistry (1988), 12(11-12), 907-13
CODEN: NJCHE5; ISSN: 0398-9836
DT Journal
LA English
OS CASREACT 112:119069
AB Stoichiometric oxidation of the **triphenylphosphine** m-trisulfonate [TPPTS, P(C₆H₄SO₃Na-m)₃] occurs under anaerobic conditions in the presence of RhCl₃·3H₂O, but becomes catalytic in the presence of O. In both cases

Rh(I) coordination compds. of TPPTS are formed at the beginning of the reaction. Redistribution of TPPTS between Rh(III) hydroxy species and [RhCl(TPPTS)3], followed by oxidative addns. of H₂O on Rh(I) enables the total oxidation of TPPTS. Under aerobic conditions, peroxo complexes such as [RhCl(TPPTS)3(O₂)] and hydroperoxo species also contribute to the catalytic oxidation process.

L7 ANSWER 27 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1990:98802 CAPLUS

DN 112:98802

TI Synthesis of rhodium-containing heterobimetallic hydride complexes

AU Casey, Charles P.; Whiteker, Gregory T.

CS Dep. Chem., Univ. Wisconsin, Madison, WI, 53706, USA

SO Inorganic Chemistry (1990), 29(4), 876-9

CODEN: INOCAJ; ISSN: 0020-1669

DT Journal

LA English

OS CASREACT 112:98802

AB The reaction of K[CpRe(CO)2H] (Cp = η^5 -cyclopentadienyl) with (Ph₃P)3RhCl produces the heterobimetallic hydride Cp(H)Re(μ -CO)2Rh(PPh₃)2 (I). The reaction of Cp₂TaH₃ with [L₂RhCl]₂ [L₂ = 1,5-cyclooctadiene (COD), Ph₂PCH₂CH₂PPh₂] forms heterobimetallic μ -hydride complexes Cp₂Ta(μ -H)(μ -Cl)RhL₂. A partial crystal structure was determined for I.

L7 ANSWER 28 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1989:525641 CAPLUS

DN 111:125641

TI Synthesis of ammonium ions and nitrosylation reactions using nitrosyl chloride and alkyl nitrites

AU Khan, M. Ishaque; Agarwala, U. C.

CS Dep. Chem., Aligarh Muslim Univ., Aligarh, 202002, India

SO Journal of the Chemical Society, Dalton Transactions: Inorganic Chemistry (1972-1999) (1989), (6), 1139-42

CODEN: JCDBTI; ISSN: 0300-9246

DT Journal

LA English

AB NOCl reacts with RuCl₃.xH₂O in the presence of PPh₃ in different alcs. leading to the formation of NH₄⁺ ions and [Ru(NO)Cl₃(PPh₃)₂] under mild exptl. conditions, through reductive deoxygenation. Some parameters affecting the reactivity of the redox system were qual. defined. Similar reactions in THF do not yield [NH₄]⁺ ions. RONO (R = Me or Et) were also successfully used as nitrosylating agents for the prepns. of nitrosyl complexes of RuII, RuIII, RhI, and IrI.

L7 ANSWER 29 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1989:115067 CAPLUS

DN 110:115067

TI Hydrosoluble transition-metal coordination compounds of **triphenylphosphine** m-trisulfonate

AU Larpent, Chantel; Patin, Henri

CS Org. Chem. Dep., Ec. Natl. Super. Chim., Rennes, 35700, Fr.

SO Applied Organometallic Chemistry (1987), 1(6), 529-34

CODEN: AOCHEX; ISSN: 0268-2605

DT Journal

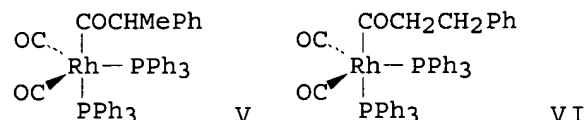
LA English

AB The basicities of **triphenylphosphine** m-trisulfonate (TPPTS) and PPh₃ are in the same order of magnitude by ³¹P NMR and IR data. TPPTS, a highly hydrosol. phosphine, is a convenient ligand for preparation of hydrosol. coordination compds. of molybdenum(0), palladium(II), platinum(II) and rhodium(I). The exchange of TPPTS with ligands other than PPh₃ (nitriles, carbon monoxide, olefins, chloride) gives the desired complexes. However, because redox reactions between metal salts, water and TPPTS are possible, the synthesis of low-valent precursors must be carried out and the exptl. conditions have to be carefully controlled to avoid side reactions and competitive reactions of the sulfonate anions.

L7 ANSWER 30 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1989:75756 CAPLUS

DN 110:75756
 TI Structure and catalytic activity of supported metal complexes. 2.
 Synthesis of rhodium complexes supported on silica gel modified by
 phosphorus- and nitrogen-containing ligands
 AU Dovganyuk, V. F.; Lafer, L. I.; Isaeva, V. I.; Dykh, Zh. L.; Yakerson, V.
 I.; Sharf, V. Z.
 CS Inst. Org. Khim. im. Zelinskogo, Moscow, USSR
 SO Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1987), (12),
 2660-5
 CODEN: IASKA6; ISSN: 0002-3353
 DT Journal
 LA Russian
 AB Rhodium complexes containing $[RhCl(COD)]_2$ (COD = cyclooctadiene), $RhCl(PPh_3)_3$
 and $RhCl_3$ supported on $-OSi(OEt)(CH_2)_3NHR$ (R = H, PPh_2) containing silica gel
 were prepared by treating the silica gel with the Rh chlorides. The
 catalytic activity and selectivity of the complexes in the hydrogenation
 and isomerization of allylbenzene depends on the nature of the ligand,
 degree of ligand exchange, and properties of the solvent used.
 L7 ANSWER 31 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN
 AN 1988:493295 CAPLUS
 DN 109:93295
 TI Structural characterization in solution of intermediates in
 rhodium-catalyzed hydroformylation and their interconversion pathways
 AU Brown, John M.; Kent, Alexander G.
 CS Dyson Perrins Lab., Oxford, OX1 3QY, UK
 SO Journal of the Chemical Society, Perkin Transactions 2: Physical Organic
 Chemistry (1972-1999) (1987), (11), 1597-607
 CODEN: JCPKBH; ISSN: 0300-9580
 DT Journal
 LA English
 OS CASREACT 109:93295
 GI

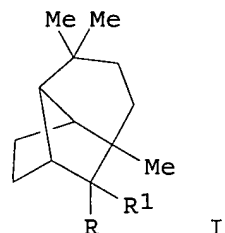


AB The reaction of $HRh(CO)(PPh_3)_3$ (I) with CO has been studied by 1H , ^{13}C ,
 and ^{31}P NMR. The main species present under ambient conditions is
 $HRh(CO)_2(PPh_3)_2$ (II) which exists as two rapidly equilibrating trigonal
 bipyramidal isomers. Complexes I and II are in rapid equilibrium via CO and
 PPh_3 dissociation steps and the square-planar complexes $HRh(CO)(PPh_3)_2$ (III)
 and $HRh(CO)_2PPh_3$ (IV) are likely transient intermediates. The chemical of
 these PPh_3 complexes is compared with that of closely related
 5-phenyl-5H-dibenzophosphole and 1,3-bis(diphenylphosphino)propane
 analogs. Complex I catalyzes the isomerization of (Z)-[1,2-2H₂]styrene,
 effectively suppressed by CO or PPh_3 . $HRh(CO)_2P_2$ complexes trap
 methylenecyclopropane. In the presence of styrene and CO, I is converted
 into a branched acyl derivative, e.g. V, which readily equilibrates with its
 linear isomer VI; the stereochem. of these acyl derivs. is determined by
 low-temperature NMR; at higher temps. rapid inter- and intramol. exchange
 processes occur. The relevance of these observations to Rh-catalyzed
 hydroformylation is discussed and it is proposed that the regiochem. of
 reaction is largely controlled by competitive olefin trapping involving
 complexes III and IV.

L7 ANSWER 32 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN
 AN 1988:123339 CAPLUS
 DN 108:123339
 TI Aryldiazenide complexes. Synthesis and x-ray structure of
 trans-chlorobis(triphenylphosphine)((p-methoxyphenyl)diazenido)rhodium tetrafluoroborate-bis(dichloromethane),
 $[RhCl(PPh_3)_2(p-N_2C_6H_4OMe)][BF_4] \cdot 2CH_2Cl_2$
 AU Einstein, Frederick W. B.; Jones, Richard H.; Zhang, Yamei; Sutton, Derek

CS Chem. Dep., Simon Fraser Univ., Burnaby, BC, V5A 1S6, Can.
 SO Inorganic Chemistry (1988), 27(6), 1004-10
 CODEN: INOCAJ; ISSN: 0020-1669
 DT Journal
 LA English
 AB $[\text{RhCl}(\text{PPh}_3)_2(\text{p-N}_2\text{C}_6\text{H}_4\text{OMe})][\text{BF}_4]$ (I), $\text{I.2Me}_2\text{CO}$ and $\text{I.2CH}_2\text{Cl}_2$ were prepared from $[\text{RhCl}(\text{PPh}_3)_2]_2$ and $[\text{p-N}_2\text{C}_6\text{H}_4\text{OMe}][\text{BF}_4]$. $\text{I.2CH}_2\text{Cl}_2$ crystallizes in the orthorhombic space group Pnma with a 22.573(3), b 21.961(3), c 9.522(2) Å, $Z = 4$, d (calculated) = 1.16 g cm^{-3} ; $\text{RF} = 0.044$ ($\text{RwF} = 0.052$). $[\text{RhCl}(\text{PPh}_3)_2(\text{p-N}_2\text{C}_6\text{H}_4\text{OMe})]^+$ is square-planar with a singly bent $\text{Rh-N}_2\text{Ar}$ moiety ($\text{Ar} = \text{p-C}_6\text{H}_4\text{OMe}$), consistent with the formal view that it is a complex of Rh(I) and N_2Ar^+ . Important dimensions are $\text{Rh-N}(1) = 1.793(8)$ Å, $\text{N}(1)-\text{N}(2) = 1.157(11)$ Å, $\text{Rh-N}(1)-\text{N}(2) = 1.79.4(7)^\circ$, and $\text{N}(1)-\text{N}(2)-\text{C}(\text{aryl}) = 141.3(9)^\circ$. I reacts with HCl to form 1st $[\text{RhCl}_2(\text{PPh}_3)_2(\text{p-NHNC}_6\text{H}_4\text{OMe})][\text{BF}_4]$, and subsequently the known $\text{RhCl}_3(\text{PPh}_3)_2(\text{p-NHNC}_6\text{H}_4\text{OMe})$. I is transformed into the known $\text{RhCl}_2(\text{PPh}_3)_2(\text{p-N}_2\text{C}_6\text{H}_4\text{OMe})$ by LiCl , and the reaction is reversed with AgBF_4 . Reaction of I with PPh_3 at low temperature forms an unstable green complex having $\nu(\text{NN})$ at 1659 cm^{-1} that is also formed in the reaction of $\text{RhCl}(\text{PPh}_3)_3$ with $[\text{p-N}_2\text{C}_6\text{H}_4\text{OMe}][\text{BF}_4]$ and is tentatively identified as $[\text{RhCl}(\text{PPh}_3)_3(\text{p-N}_2\text{C}_6\text{H}_4\text{OMe})][\text{BF}_4]$ as originally suggested by M. C. Baird and G. Wilkinson (1967).

L7 ANSWER 33 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN
 AN 1988:22074 CAPLUS
 DN 108:22074
 TI Structure and odor. VI. Preparation and reactions of longicamphenilone
 AU Weyerstahl, Peter; Krohn, Kerstin
 CS Inst. Org. Chem., Tech. Univ. Berlin, Berlin, D-1000/12, Fed. Rep. Ger.
 SO Liebigs Annalen der Chemie (1987), (12), 1125-7
 CODEN: LACHDL; ISSN: 0170-2041
 DT Journal
 LA German
 OS CASREACT 108:22074
 GI



AB Longicamphenilone (I; $\text{RR}_1 = \text{O}$) was prepd by phase-transfer-catalyzed KMnO_4 oxidation of longifolene (I; $\text{RR}_1 = \text{CH}_2$). The ketone I ($\text{RR}_1 = \text{O}$) is a convenient starting material for the preparation of the fragrance compds. I ($\text{R} = \text{H}, \text{Me}, \text{CH:CH}_2, \text{Et}; \text{R}_1 = \text{OH}$).

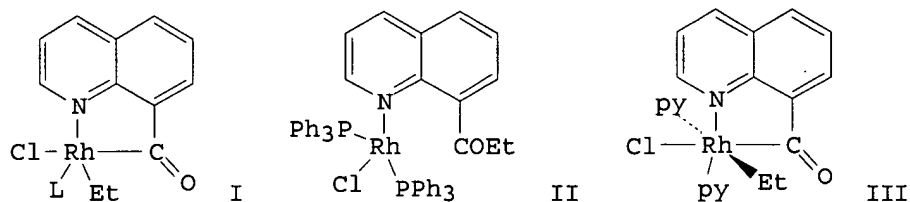
L7 ANSWER 34 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN
 AN 1987:508156 CAPLUS
 DN 107:108156
 TI Selective oxidation of carbon monoxide and triphenylphosphine in rhodium(I) carbonyl phosphine complexes
 AU Kukushkin, V. Yu.; Dushina, M. E.; Krylov, V. K.; Iretskii, A. V.
 CS Leningr. Gos. Univ., Leningrad, USSR
 SO Koordinatsionnaya Khimiya (1987), 13(5), 650-5
 CODEN: KOKHDC; ISSN: 0132-344X
 DT Journal
 LA Russian
 AB Me_3NO selectively oxidized CO with decarbonylation in $[\text{Rh}(\text{CO})(\text{PPh}_3)_2\text{X}]$ ($\text{X} = \text{Cl}, \text{NO}_3$), $[\text{Rh}(\text{CO})(\text{PPh}_3)_3\text{py}]\text{ClO}_4$, and $[\text{Rh}(\text{CO})(\text{PPh}_3)_2(\text{bpy})]\text{NO}_3$ ($\text{bpy} = 2,2'$ -bipyridine) under mild conditions in electron-donor solvents. In the

decarbonylated products, PPh_3 is oxidized by aerial O to form Ph_3PO .

- L7 ANSWER 35 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1987:70043 CAPLUS
DN 106:70043
TI Selective hydrogenation of polynuclear heteroatomic compounds
AU Fish, R. H.; Heinemann, H.
CS Lawrence Berkeley Lab., Berkeley, CA, USA
SO Report (1985), EPRI-AP-4227; Order No. DE85017581, 41 pp.
Avail.: NTIS
From: Energy Res. Abstr. 1985, 10(22), Abstr. No. 45954
DT Report
LA English
AB The use was studied of polymer-supported (polystyrene-divinylbenzene) transition-metal catalysts in the selective catalytic hydrogenation of polynuclear heteroarom. compds. present in coal and coal liqs. The polymer-supported chlorotris(triphenylphosphine)rhodium(I) [14694-95-2] was the most efficient catalyst for the regiospecific reduction of the N-containing ring in model-coal compds., such as quinoline, 5,6- and 7,8-benzoquinoline and acridine, and in one case, a heteroarom. S compound, benzothiophene. Interestingly, the polymer-supported Rh catalyst was more active than the corresponding homogeneous analog by relative rate factors of 10-20 depending on the substrate studied in the reduction. More importantly, a model coal liquid had a relative rate of reduction of quinoline to 1,2,3,4-tetrahydroquinoline (THQ) that was 2.2 times faster than a similar experiment without the coal liquid constituents consisting of pyrene, Tetralin, methylnaphthalene, p-cresol, quinoline, and 2-methylpyridine. The model coal liquid constituent, p-cresol, was responsible for the relative rate enhancement in the highly regiospecific (no other model coal liquid constituent was hydrogenated) reduction of quinoline to THQ. The 9,10-dihydrophenanthridine was an excellent catalytic transfer hydrogenation reagent in the presence of several homogeneous and polymer-supported transition-metal catalysts. Thus, the potential usefulness of these catalysts in the hydroprocessing of coal liqs. and other petroleum products was demonstrated.
- L7 ANSWER 36 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1987:41374 CAPLUS
DN 106:41374
TI Reaction dynamics of the tricoordinate intermediates $\text{MCl}(\text{PPh}_3)_2$ ($\text{M} = \text{Rh}$ or Ir) as probed by the flash photolysis of the carbonyls $\text{MCl}(\text{CO})(\text{PPh}_3)_2$
AU Wink, David A.; Ford, Peter C.
CS Dep. Chem., Univ. California, Santa Barbara, CA, 93106, USA
SO Journal of the American Chemical Society (1987), 109(2), 436-42
CODEN: JACSAT; ISSN: 0002-7863
DT Journal
LA English
AB Reported is a kinetics flash photolysis investigation of $\text{RhCl}(\text{CO})(\text{PPh}_3)_2$ in benzene solution. The results are interpreted in terms of the transient formation of $\text{RhCl}(\text{PPh}_3)_2$ (I), an intermediate crucial to proposed mechanisms of Wilkinson's catalyst reactions such as olefin hydrogenation. Kinetics of the dimerization of I and its reactions with CO , C_2H_4 , PPh_3 , and H_2 are also described. The second-order rate constant for the reaction with H_2 is $1.0 \pm 105 \text{ M}^{-1} \text{ s}^{-1}$ in good agreement with the value $>7 \pm 104 \text{ M}^{-1} \text{ s}^{-1}$ estimated by Halpern and Wong (1973). The equilibrium constant for Ph_3P dissociation from $\text{RhCl}(\text{PPh}_3)_3$ was calculated as $2.3 \pm 10^{-7} \text{ M}$. Rates of the subsequent reactions of the other adducts of I and various ligands with the CO liberated in the flash experiment were also determined. Flash photolysis studies of the $\text{IrCl}(\text{CO})(\text{PPh}_3)_2$ in benzene demonstrated CO photolabilization in this case as well. The back reaction of the resulting transient species $\text{IrCl}(\text{PPh}_3)_2$ with CO displayed second-order kinetics with the resp. rate constant $2.7 \pm 108 \text{ M}^{-1} \text{ s}^{-1}$. These results are discussed in terms of the catalytic mechanisms involving such species.
- L7 ANSWER 37 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1986:626929 CAPLUS
DN 105:226929
TI Synthesis of rhodium(I) polymeric phosphinocarborane complexes and their

catalytic properties in hydrogenation of olefins and dienes
 AU Kalinin, V. N.; Mel'nik, O. A.; Sakharova, A. A.; Frunze, T. M.;
 Zakharkin, L. I.; Borunova, N. V.; Sharf, V. Z.
 CS Inst. Elementoorg. Khim., Moscow, USSR
 SO Izvestiya Akademii Nauk SSSR, Seriya Khimicheskaya (1985), (11),
 2442-7
 CODEN: IASKA6; ISSN: 0002-3353
 DT Journal
 LA Russian
 OS CASREACT 105:226929
 AB 1-Isopropenyl-o-carborane was converted to its K, Cs and Me₄N salts in
 78.2-80.5% yield, copolymd. with CH₂:CMeCO₂Me in MeOH containing AIBN at
 60-80°, and treated with Rh(PPh₃)₃Cl in refluxing EtOH to give
 86-92% title complex (I), containing 3.1-5.3% Rh. I catalyzed RCH₂CH:CH₂ (R =
 n-C₅H₁₁, Ph, Pr) conversion to the corresponding cis- and trans-RCH:CHMe
 and RPr, and that of mixed isomeric MeCH:CHCH:CH₂ to PrCH:CH₂, cis- and
 trans-EtCH:CHMe and pentane.

L7 ANSWER 38 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN
 AN 1985:422757 CAPLUS
 DN 103:22757
 TI Synthesis, structure, and ligand-promoted reductive elimination in an
 acylrhodium ethyl complex
 AU Suggs, J. William; Wovkulich, Michael J.; Cox, Sherman D.
 CS Dep. Chem., Brown Univ., Providence, RI, 02912, USA
 SO Organometallics (1985), 4(6), 1101-7
 CODEN: ORGND7; ISSN: 0276-7333
 DT Journal
 LA English
 OS CASREACT 103:22757
 GI



AB 8-Quinolinecarboxaldehyde and [(C₂H₄)₂RhCl]₂ reacted to give a polymeric
 acylrhodium Et compound which was solubilized by pyridine to give the Rh
 quinolinecarbonyl complex I (L = py). I (L = py) was stable in the
 presence of amine ligands, but phosphine ligands L1 [L1 = PPh₃, PMe₂Ph,
 P(C₆H₄Me-4)₃, P(C₆H₄Cl-4)₃] caused rapid reductive elimination, which was
 studied by NMR. Rate consts. were determined in the first-formed intermediate
 L1 displaced pyridine to give I (L = L1). I (L = L1) rearranged to
 η²-ketone Rh complex which reacted with addnl. L1 to give the Et
 quinolinyl ketone-Rh complex, II. With excess PPh₃, RhCl(PPh₃)₃ and
 8-quinolinyl Et ketone were the final products. Recrystn. of I (L = py)
 from pyridine-ether gave the bis(pyridino) analog III, whose structure was
 determined by single-crystal x-ray diffraction.

L7 ANSWER 39 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN
 AN 1985:149497 CAPLUS
 DN 102:149497
 TI Isolation and characterization of reactive intermediates and active
 catalysts in homogeneous catalysis
 AU Gassman, Paul G.; Macomber, David W.; Willging, Stephen M.
 CS Dep. Chem., Univ. Minnesota, Minneapolis, MN, 55455, USA
 SO Journal of the American Chemical Society (1985), 107(8), 2380-8
 CODEN: JACSAT; ISSN: 0002-7863
 DT Journal
 LA English
 OS CASREACT 102:149497
 AB A new method has been developed for the isolation and characterization of

highly reactive intermediates and of active catalysts in homogeneous catalysis by transition-metal complexes. Using the principles of steric exclusion type chromatog., a method has been devised for the isolation of highly reactive intermediates on the surface of porous polymer films. Anal. of these surface-isolated intermediates by XPS (ESCA) provided detailed information about the transition-metal complexes that resided on the surface of the polymer film. The utility of this process was demonstrated by a reanal. of the decarbonylation of acid chlorides using chlorotris(triphenylphosphine)rhodium(I) (Wilkinson's catalyst). Through the utilization of the concepts and techniques described above, the active catalytic intermediate involved in the metathesis-promoted polymerization of cyclopentene to polypentenomer by oxotetrachlorotungsten-ethylaluminum dichloride was isolated on the surface of porous polystyrene film. This technique was viable because the active catalyst had to be attached to the end of the growing polymer chain. Anal. of the surface-isolated catalyst by XPS showed a ratio of W:O:Al:Cl of 1:1:1:4-5. The tungsten showed a binding energy of 36.0 and 38.2 eV [W(4f7/2) and W(4f5/2), resp]. This intermediate species was very labile. On treatment with trimethylphosphine, this catalyst was converted into a new tungsten complex (noncatalytic) that showed binding energies of 34.0 and 36.2 eV for W(4f7/2) and W(4f5/2), resp. These values can be compared to values of 34.1 and 36.3 eV for Schrock's stable tungsten-alkylidene complex, W(O)(CHCMe3)Cl2(PET3)2.

L7 ANSWER 40 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1985:122972 CAPLUS

DN 102:122972

TI Flash photolysis investigations of bis(triphenylphosphine)carbonylchlororhodium: reaction dynamics of the Wilkinson's catalysis intermediate "bis(triphenylphosphine)chlororhodium"

AU Wink, David; Ford, Peter C.

CS Dep. Chem., Univ. California, Santa Barbara, CA, 93106, USA

SO Journal of the American Chemical Society (1985), 107(6), 1794-6

CODEN: JACSAT; ISSN: 0002-7863

DT Journal

LA English

AB Reported is a kinetics flash photolysis investigation of the Rh(I) complex [RhCl(CO)(PPh3)2] in benzene solution. These results are interpreted in terms of the transient formation of the unsatd. species RhCl(PPh3)2, an intermediate crucial to proposed mechanisms of Wilkinson's catalyst reactions such as olefin hydrogenation, but which was not the subject of previous direct investigations. Dimerization of this transient, 2 RhCl(PPh3)2 \rightarrow [RhCl(PPh3)2]2, and reaction with CO to reform starting material occurred with 2nd order rate consts. of $\approx 4 \times 10^7$ and 6×10^7 M⁻¹ s⁻¹, resp., while reaction with H₂ to form the dihydride occurred with a rate constant, 1×10^5 M⁻¹ s⁻¹. The equilibrium constant for dissociation of the above dimer was determined from the kinetics studies as 5×10^{-8} M. The unsatd. transient underwent fast reactions both with PPh3 and with C2H4 to form RhCl(PPh3)3 and RhCl(H2C:CH2)(PPh3)2, resp.

L7 ANSWER 41 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1984:175047 CAPLUS

DN 100:175047

TI Syntheses and x-ray crystal structures of highly dissociated rhodium(I) phosphine complexes using very bulky phosphine ligands

AU Murray, Brendan D.; Hope, Haakon; Hvoslef, Jan; Power, Philip P.

CS Dep. Chem., Univ. California, Davis, CA, 95616, USA

SO Organometallics (1984), 3(5), 657-63

CODEN: ORGND7; ISSN: 0276-7333

DT Journal

LA English

AB Rh(I) phosphine complexes were prepared by treating [RhCl(CO)2]2, [RhCl(COD)]2 (COD = cyclooctadiene) and [RhCl(COE)]2 (COE = cyclooctene) with the bulky phosphines PR2R1 (R = CH(SiMe3)2; R1 = Cl, H, Me). The olefin complexes are highly dissociated in solution. The mol. structures of RhCl(COD)[PClR2]2·C7H8, bis[trans-(COE)(R2PH)Rh(μ-Cl)2Rh(PHR2)(COE)], and trans-RhCl(CO)(PHR2)2 (I) were determined by x-ray diffraction. Complex I is nearly square planar and does not dissociate

appreciably in solution. The geometries at P in the dissociating complexes show no unusual angles or distances. This suggests that the steric effects in these ligands are more subtle than those found in the bulkiest phosphines now known.

- L7 ANSWER 42 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1984:84951 CAPLUS
DN 100:84951
TI Intramolecular trapping of alkyl- and arylrhodium hydride intermediates in the decarbonylation of aldehydes by chlorotris(triphenylphosphine)rhodium
AU Kampmeier, J. A.; Harris, S. H.; Mergelsberg, I.
CS Dep. Chem., Univ. Rochester, Rochester, NY, 14627, USA
SO Journal of Organic Chemistry (1984), 49(4), 621-5
CODEN: JOCEAH; ISSN: 0022-3263
DT Journal
LA English
AB The decarbonylation-cyclization of 5-hexenal by $\text{ClRh}(\text{PPh}_3)_3$ or $[\text{ClRh}(\text{PPh}_3)_2]_2$ (I) gives cyclopentane. Similarly, 2- $\text{CH}_2\text{:CHCH}_2\text{C}_6\text{H}_4\text{CHO}$ with I gives a good yield of indan. These cyclizations and those of 4-enals, to give cyclopropanes, show the intermediacy of alkyl- or arylrhodium hydrides on the path towards aldehyde decarbonylation. The formation of nortricyclene from endo-5-norbornene-2-carboxaldehyde shows that the alkylrhodium hydride is formed with retention of stereochem. at C(α) of the aldehyde.
- L7 ANSWER 43 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1983:624125 CAPLUS
DN 99:224125
TI Reactions of rhodium(I) complexes with carbonyl sulfide
AU Kukushkin, Yu. N.; Iretskii, A. V.; Danilina, L. I.
CS Leningr. Tekhnol. Inst., Leningrad, USSR
SO Koordinatsionnaya Khimiya (1983), 9(10), 1405-7
CODEN: KOKHDC; ISSN: 0132-344X
DT Journal
LA Russian
AB $\text{Rh}(\text{SPPH}_3)_3\text{Cl}$ was prepared from $\text{RhCl}_3 \cdot 3\text{H}_2\text{O}$ and SPPH_3 in EtOH, from $\text{Rh}(\text{PPh}_3)_3\text{Cl}$ and SPPH_3 in alc., or from $\text{Rh}(\text{PPh}_3)_3\text{Cl}$ and COS in CH_2Cl_2 which also formed $\text{RhCO}(\text{PPh}_3)_2\text{Cl}$. $[\text{Rh}(\text{SPPH}_3)_2\text{Cl}]_2$ was prepared from $\text{RhCl}_3 \cdot 3\text{H}_2\text{O}$ and SPPH_3 . $\text{Rh}(\text{PPh}_3)_3\text{Cl}$ was prepared from $\text{Rh}(\text{SPPH}_3)_3\text{Cl}$ or $[\text{Rh}(\text{OPPh}_3)\text{Cl}]_n$ and PPh_3 in EtOH. $[\text{Rh}(\text{OPPh}_3)\text{Cl}]_n$ was prepared from $\text{RhCl}_3 \cdot 3\text{H}_2\text{O}$ or $\text{Rh}(\text{SPPH}_3)_3\text{Cl}$ in OPPh_3 in EtOH. $\text{Rh}(\text{CO})_2(\text{SPPH}_3)\text{Cl}$ was prepared from $[\text{Rh}(\text{CO})_2\text{Cl}]_2$ and SPPH_3 in MeOH.
- L7 ANSWER 44 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1982:227954 CAPLUS
DN 96:227954
TI Hyponitrite complexes of rhodium(III)
AU Pandey, K. K.; Jain, K. C.; Agarwala, U. C.
CS Dep. Chem., Indian Inst. Technol., Kanpur, 208 016, India
SO Indian Journal of Chemistry, Section A: Inorganic, Physical, Theoretical & Analytical (1982), 21A(1), 76-7
CODEN: IJCADU; ISSN: 0376-4710
DT Journal
LA English
AB The hyponitrite complexes of Rh(III), $[\{\text{RhClX}(\text{PPh}_3)_2\}_2\text{N}_2\text{O}_2]$ ($\text{X} = \text{Cl}, \text{Br}$), $[\{\text{RhBr}_2(\text{PPh}_3)_2\}_2\text{N}_2\text{O}_2]$ were prepared by the reactions of NOX ($\text{X} = \text{Cl}, \text{Br}$) or NOBr_3 with $\text{Rh}(\text{CS})\text{Cl}(\text{PPh}_3)_2$. These hyponitrite complexes react with HCl in the presence of Ph_3P to give halo complexes $\text{RhX}(\text{PPh}_3)_3$ ($\text{X} = \text{Cl}, \text{Br}$). The products are characterized by elemental anal. and various physicochem. methods.
- L7 ANSWER 45 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1980:506141 CAPLUS
DN 93:106141
TI Reactions of carbon oxide sulfide with rhodium(I) complexes and with rhodium chloride trihydrate in the presence of triphenylphosphine, triphenylarsine, or triphenylstibine
AU Datta, Someswar; Pandey, Krishna K.; Agarwala, Umesh C.

CS Dep. Chem., Indian Inst. Technol., Kanpur, 208016, India
SO Inorganica Chimica Acta (1980), 40(1), 65-70
CODEN: ICHAA3; ISSN: 0020-1693

DT Journal
LA English
AB The reactions of COS with some Rh(I) complexes, and with RhCl₃.3H₂O in the presence of excess of PPh₃, AsPh₃, or SbPh₃ were investigated. The products were characterized by elemental analyses and IR spectra. In most cases COS acts as a carbonylating agent but in some cases it forms SPPPh₃ or SASPh₃ complexes. Mol. COS complexes were also obtained.

L7 ANSWER 46 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1980:472076 CAPLUS
DN 93:72076
TI Homogeneous catalytic hydrogenation of a Δ^1 -double bond in steroid dienones
AU Goncharova, N. M.; Grinenko, G. S.
CS Vses. Nauchno-Issled. Inst. Khim.-Farm. Inst., Moscow, USSR
SO Khimiko-Farmatsevticheskii Zhurnal (1980), 14(4), 61-3
CODEN: KHFZAN; ISSN: 0023-1134

DT Journal
LA Russian
AB Hydrogenation of androsta-1,4-diene-3,17-dione in C₆H₆ containing (Ph₃P)₃RhCl at 20° for 2 h gave 57.1% androst-4-ene-3,17-dione. Similarly, 3-oxo-23,24-dinorchola-1,4-dien-22-oic acid gave 64.5% 3-oxo-23,24-dinorchol-4-en-22-oic acid.

L7 ANSWER 47 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1979:161444 CAPLUS
DN 90:161444
TI Nitrosyltris(triphenylphosphine)rhodium and nitrosyltris(triphenylphosphine)cobalt as nitrosyl transfer reagents
AU Sacco, A.; Vasapollo, G.; Giannoccaro, P.
CS Ist. Chim. Gen. Inorg., Univ. Bari, Bari, Italy
SO Inorganica Chimica Acta (1979), 32(2), 171-4
CODEN: ICHAA3; ISSN: 0020-1693

DT Journal
LA English
AB Intermol. transfer of the nitrosyl ligand in RhNOL₃ and CoNOL₃ to NiCl₂L₂, CoClL₃, CoCl₂L₂, Co(dpe)₂(ClO₄)₂, FeCl₂dpe [L = PPh₃; dpe = 1,2-bis(diphenylphosphino)ethane] readily occurs at room temperature. On treating RhNOL₃ with tritylium and Ag perchlorates, the cationic species [RhL₃(Me₂CO)]⁺ and [Rh(NO₂)L₂]⁺ were obtained. IR spectroscopic evidence of the formation of a nitrosyl bridge is cited.

L7 ANSWER 48 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1977:600664 CAPLUS
DN 87:200664
TI Mechanism of decarbonylation of acid chlorides with chlorotris(triphenylphosphine)rhodium(I) structure and stereochemistry
AU Lau, K. S. Y.; Becker, Y.; Huang, F.; Baenziger, N.; Stille, J. K.
CS Dep. Chem., Univ. Iowa, Iowa City, IA, USA
SO Journal of the American Chemical Society (1977), 99(17), 5664-72
CODEN: JACSAT; ISSN: 0002-7863

DT Journal
LA English
AB The stoichiometric decarbonylation of (S)-(+)-PhCHDCOCl with Rh(PPh₃)₃Cl resulted in the formation of trans-(OC)Rh(PPh₃)₂Cl (I) and (S)-(+)-PhCHDCl with 20-7% overall stereospecificity. The decarbonylation of acid chlorides using Rh(PPh₃)₃Cl gave an even distribution of ³⁶Cl among the products (alkyl chloride, I and unreacted starting material) in agreement with a rapid equilibrium in the formation of the rhodium(III)-acyl complex and an equivalence of the Cl atoms in the acyl complex. The structure of the rhodium(III)-acyl complex was elucidated by IR, ³¹P NMR and x-ray crystallog. studies. The stoichiometric decarbonylation of C₆D₅CD₂CH₂COCl afforded a mixture of all possible C₆D₅CR:CR₁R₂ (R, R₁, R₂ = H, D), but the catalytic decarbonylation gave C₆D₅CD:CH₂ as the exclusive organic product. The H isotope exchange is a result of inter- and intramol. H- transfer mechanisms. The rates of decarbonylation exhibited a D isotope effect of

1.2. These results favor a mechanism in which a rapid preequil. between the acyl- and alkyl-Rh complexes is followed by the rate-determining step, a concerted cis elimination of Rh hydride.

L7 ANSWER 49 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1976:89226 CAPLUS

DN 84:89226

TI Transfer hydrogenation and transfer hydrogenolysis. IX. Hydrogen transfer from organic compounds to aldehydes and ketones catalyzed by dihydridotetrakis(triphenylphosphine)ruthenium(II)

AU Imai, Hideaki; Nishiguchi, Takeshi; Fukuzumi, Kazuo

CS Fac. Eng., Nagoya Univ., Nagoya, Japan

SO Journal of Organic Chemistry (1976), 41(4), 665-71

CODEN: JOCEAH; ISSN: 0022-3263

DT Journal

LA English

AB In the hydrogen transfer from organic compds. to aldehydes and ketones, $\text{RuH}_2(\text{PPh}_3)_4$ was found to have an excellent catalytic activity under mild conditions. Ethers, hydroaromatic compds., tertiary amines, and alcs. showed hydrogen donating ability, and the ability decreased in the order 2,5-dihydrofuran>tri-n-propylamine>benzyl alcohol>cyclohexanol>ethyl alc.>tetralin \approx 1,2-dihydronaphthalene>dioxane. The mechanism of hydrogen transfer from alcs. to the aldehyde was investigated. The kinetic isotope effect, $k_{\text{H}}/k_{\text{D}} = 0.9$, and other data suggests that the rate-determining step of the reaction is the coordination of the alc. to the complex. The process of the hydrogen transfer from alc. to aldehyde on the metal is also proposed.

L7 ANSWER 50 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1975:571944 CAPLUS

DN 83:171944

TI Oxidative addition reactions of halogens to rhodium(I) complexes

AU Gajendragad, M. R.; Agarwala, U.

CS Dep. Chem., Indian Inst. Technol., Kanpur, India

SO Journal of Inorganic and Nuclear Chemistry (1975), 37(7-8), 1834-5

CODEN: JINCAO; ISSN: 0022-1902

DT Journal

LA English

AB $\text{Rh}(\text{PPh}_3)\text{L}_2\text{ClX}_2$ [L = PPh_3 , 1-phenyltetrazoline-5-thione, quinazoline (1H,3H)-2,4-dithione; X = Cl, Br, I] were prepared by oxidative addition of halogen to the appropriate Rh(I) complex $\text{Rh}(\text{PPh}_3)\text{L}_2\text{Cl}$ in CHCl_3 . The complexes were characterized by their elemental anal., diamagnetism, and electronic spectra.

L7 ANSWER 51 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1974:498780 CAPLUS

DN 81:98780

TI Interaction of four-coordinate rhodium(I) complexes with boron-containing Lewis acids

AU Lehman, D. D.; Shriver, D. F.

CS Dep. Chem., Northwest. Univ., Evanston, IL, USA

SO Inorganic Chemistry (1974), 13(9), 2203-7

CODEN: INOCAJ; ISSN: 0020-1669

DT Journal

LA English

AB The interaction of Lewis acids (BF_3 , BCl_3) with $\text{RhCl}(\text{PPh}_3)_3$, $\text{RhClCO}(\text{PPh}_3)_2$, $[\text{Rh}(\text{diphos})_2]\text{BPh}_4$, $\text{RhCl}(\text{C}_8\text{H}_{12})\text{PPh}_3$, and $[\text{RhC}_8\text{H}_{12}(\text{PPh}_3)_2]\text{PF}_6$ is reported (diphos = bis(1,2-diphenylphosphino)ethane; C_8H_{12} = 1,5-cyclooctadiene). The Lewis acid complexes were characterized by stoichiometry, mol. weight, medium- and far-ir, and ^{11}B , ^{31}P , ^{19}F , ^1H , and ^{103}Rh NMR data. Several types of reactions involving metal basicity, halide basicity, and phosphine abstraction were observed

L7 ANSWER 52 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1973:16291 CAPLUS

DN 78:16291

TI Chemical decarbonylation of organometallic compounds

AU Alexander, John J.; Wojcicki, Andrew

CS Dep. Chem., Univ. Cincinnati, Cincinnati, OH, USA
 SO Inorganic Chemistry (1973), 12(1), 74-6
 CODEN: INOCAJ; ISSN: 0020-1669
 DT Journal
 LA English
 AB Transition metal carbonyl acyl complexes of the type $\pi\text{-C}_5\text{H}_5\text{M}(\text{CO})_n\text{-COR}(\text{M} = \text{Fe}, n = 2; \text{M} = \text{Mo}, n = 3; \text{C}_5\text{H}_5 = \text{cyclopentadienyl})$ can be chemical decarbonylated under mild conditions using $\text{Rh}(\text{PPh}_3)_3\text{Cl}$. The products are a mixture of the corresponding alkyl and **triphenylphosphine**-substituted acyl complexes. The scope and mechanism of this reaction are discussed.

L7 ANSWER 53 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN
 AN 1972:418860 CAPLUS
 DN 77:18860
 TI Nature of chlorotris(**triphenylphosphine**)rhodium in solution and its reaction with hydrogen
 AU Meakin, P.; Jesson, J. P.; Tolman, C. A.
 CS Cent. Res. Dep., E. I. du Pont de Nemours and Co., Wilmington, DE, USA
 SO Journal of the American Chemical Society (1972), 94(9), 3240-2
 CODEN: JACSAT; ISSN: 0002-7863
 DT Journal
 LA English
 AB PMR, ^{31}P NMR and spectrophotometric studies of solns. of Wilkinson's catalyst, $\text{RhCl}(\text{PPh}_3)_3$ demonstrate that in the presence of H the principal species in solution are the starting compound and a six-coordinate dihydride $\text{RhH}_2\text{Cl}(\text{PPh}_3)_3$. The P ligand trans to a H dissociates with a rate constant $\approx 400 \text{ sec}^{-1}$ and returns to its original site with no scrambling of the P ligands in the five-coordinate intermediate. This unique site is the position of olefin attack in the hydrogenation reactions of the catalyst. $[\text{RhCl}[\text{P}(\text{C}_6\text{H}_4\text{Me-p})_3]_2]_2$ is formed in dilute solns. of $\text{RhCl}[\text{P}(\text{C}_6\text{H}_4\text{Me-p})_3]_3$ resulting in ligand dissociation

L7 ANSWER 54 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN
 AN 1972:113349 CAPLUS
 DN 76:113349
 TI Synthesis of chlorotris(**triphenylphosphine**)rhodium(I) from trans-chlorocarbonylbis(**triphenylphosphine**)rhodium(I)
 AU Fries, R. W.; Stille, J. K.
 CS Dep. Chem., Univ. Iowa, Iowa City, IA, USA
 SO Synthesis in Inorganic and Metal-Organic Chemistry (1971), 1(4), 295-8
 CODEN: SIMOAI; ISSN: 0039-789X
 DT Journal
 LA English
 AB $\text{Cl}(\text{Ph}_3\text{P})_3\text{Rh}(\text{I})$ (73.4%) was prepared by treating trans- $\text{Cl}(\text{CO})-(\text{Ph}_3\text{P})_2\text{Rh}(\text{I})$ with ClCH_2Ph followed by Ph_3P in EtOH.

L7 ANSWER 55 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN
 AN 1971:150563 CAPLUS
 DN 74:150563
 TI Preparation and properties of some cationic complexes of rhodium(I) and rhodium(III)
 AU Osborn, John A.; Schrock, Richard R.
 CS Dep. Chem., Harvard Univ., Cambridge, MA, USA
 SO Journal of the American Chemical Society (1971), 93(10), 2397-407
 CODEN: JACSAT; ISSN: 0002-7863
 DT Journal
 LA English
 AB Cationic complexes of the type $[\text{Rh}(\text{diene})\text{L}_2]^+$ (diene = 1,5-cyclooctadiene (COD) or norbornadiene (NBD), L = tertiary phosphine or arsine ligand) were prepared by several routes. These complexes serve as useful intermediates for the synthesis of many other cationic Rh(I) and Rh(III) species. Treatment of $[\text{Rh}(\text{COD})\{\text{PPh}_3\}_2]^+$ with basic phosphines, L, leads to the isolation of the cations $[\text{RhL}_4]^+$. Under identical conditions using $[\text{Rh}(\text{NBD})\{\text{PPh}_3\}_2]^+$, however, the 5-coordinate species $[\text{Rh}(\text{NBD})\text{L}_3]^+$ are produced. Treatment of solns. of $[\text{Rh}(\text{NBD})-\{\text{PPh}_3\}_2]^+$ with mol. H generates $[\text{Rh}\{\text{PPh}_3\}_2\text{H}_2\text{S}_2]^+(\text{S} = \text{solvent})$ in situ with the elimination of norbornane.

These solns. react with phosphines to give cations of the type $[\text{RhL}_4\text{H}_2]^+$ or, alternatively, with CO to yield carbonyl complexes such as $[\text{Rh}(\text{PPh}_3)_2(\text{CO})_3]^+$, $[\text{Rh}(\text{PPh}_3)_2\text{CO}(\text{S})]^+$, or $[\text{Rh}(\text{PPh}_3)_2\text{CO}]^+$. Further, treatment of the solution-labile species $[\text{Rh}(\text{PPh}_3)_2(\text{CO})_3]^+$ with dienes leads to the isolation of the 5-coordinate complexes $[\text{Rh}(\text{PPh}_3)_2(\text{diene})(\text{CO})]^+$. The ir and NMR (1H and 31P) of the complexes are discussed. The use of certain complexes as homogeneous catalysts is also briefly investigated.

L7 ANSWER 56 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1971:93889 CAPLUS
DN 74:93889

TI Cationic nitrosyl derivative, $[\text{RhCl}(\text{NO})(\text{PPh}_3)_3][\text{BF}_4]$ [chlorotris(**triphenylphosphine**)nitrosylrhodium(I) fluoroborate]

AU Busetto, Luigi; Palazzi, Antonio; Ros, Renzo; Graziani, Mauro

CS Fac. Chim. Ind., Bologna, Italy

SO Gazzetta Chimica Italiana (1970), 100(8-9), 849-50

CODEN: GCITA9; ISSN: 0016-5603

DT Journal

LA Italian

AB $(\text{Ph}_3\text{P})_3\text{RhCl}$ reacted with NOBF_4 in C_6H_6 -MeOH solution in the presence of excess Ph_3P at 40° to give red-violet $[\text{RhCl}(\text{NO})(\text{PPh}_3)_3][\text{BF}_4]$ having $\nu(\text{NO})$ 1720 cm^{-1} . It is suggested that the Rh-N-O skeleton is not linear.

L7 ANSWER 57 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1969:481480 CAPLUS
DN 71:81480

TI **Triphenylphosphine** complexes of rhodium(I) hydride

AU Ilmaier, B.; Nyholm, R. S.

CS Univ. Coll. London, London, UK

SO Naturwissenschaften (1969), 56(8), 415-16

CODEN: NATWAY; ISSN: 0028-1042

DT Journal

LA English

AB Treatment of $(\text{Ph}_3\text{P})_3\text{RhCl}$ with KOH in EtOH yields $(\text{Ph}_3\text{P})_2\text{RhH}$, m. 120° (decomposition); the complex was characterized by ir and N.M.R. spectra. Treatment of $(\text{Ph}_3\text{P})_2\text{RhH}$ in C_6H_6 solution with excess Ph_3P affords $(\text{Ph}_3\text{P})_4\text{RhH}$, which reacts with iodine in C_6H_6 to give $(\text{Ph}_3\text{P})_3\text{RhI}$ and HI. MeI reacts with $(\text{Ph}_3\text{P})_4\text{RhH}$ to form CH_4 and $(\text{Ph}_3\text{P})_3\text{RhI}$. A treatment of the hydride complex with HgCl_2 affords $(\text{Ph}_3\text{P})_2\text{RhCl}$ and Hg and treatment with HCl affords $(\text{Ph}_3\text{P})_3\text{Rh-Cl}_2$, and treatment with NO yields $(\text{Ph}_3\text{P})_3\text{RhNO}$.

L7 ANSWER 58 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1969:472471 CAPLUS
DN 71:72471

TI Group VIII metal thiocarbonyl compounds

IN Wilkinson, Geoffrey

PA Ethyl Corp.

SO U.S., 3 pp.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 3452068	A	19690624	US 1966-601531	19661214 <--
PRAI	GB 1966-16021	A	19660412		

AB Group VIII metal thiocarbonyl triaromatic phosphines of formula $\text{MX}_n(\text{CS})_y(\text{PR}_3)_z$, where M is Fe, Co, Ni, Ru, Rh, Pd, Os, Ir, and Pt, X is an anion, R is an aryl or aralkyl radical having ≤ 20 C atoms, n and y are independently selected integers from 1 to 3 and z is an integer from 2 to 6, were prepared. The preparative method entails the reflux of a Group VIII metal halide tris(triarylphosphine) or tris(triaralkylphosphine) of formula $\text{MX}_n(\text{PR}_3)_3$ with CS_2 . Specifically, 10 parts of tris(**triphenylphosphine**) chlororhodium(I) and an excess of CS_2 (approx. 200 ml.) are stirred in a flask fitted with a reflux condenser. The mixture is refluxed for 15 min. after which CS_2 is removed by evaporation. The product, bis(**triphenylphosphine**) (thiocarbonyl) chlororhodium(I), is obtained pure by recrystn. from C_6H_6 (m.p. 250°). These materials

are useful as catalysts, intermediates, and metal plating compds.

L7 ANSWER 59 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1969:87128 CAPLUS
DN 70:87128
TI Reaction of complexes of rhodium(I) chloride with norbornadiene
AU Katz, Thomas J.; Acton, Nancy; Paul, Iain C.
CS Columbia Univ., New York, NY, USA
SO Journal of the American Chemical Society (1969), 91(1), 206-8
CODEN: JACSAT; ISSN: 0002-7863
DT Journal
LA English
GI For diagram(s), see printed CA Issue.
AB Norbornadiene (NBD) was refluxed with (NBD)(Ph₃P)RhCl (I), (Ph₃P)₃RhCl, or (Ph₃P)₂(CO)RhCl. I was formed from the other 2 complexes. A mixture of dimers was also obtained in 50% yield, containing 90% of a mixture of II and III. Three other isomers, including IV, were also isolated. III formed a complex with AgNO₃, orthorhombic, a 17.19 ± 0.03, b 6.41 ± 0.01, c 11.70 ± 0.02 Å, Z = 4, space group Pn2₁a. The structure of IV was assigned from spectral data and from its preparation from V. A trimer, m. 118-19.5°, probably with the structure VI, and a liquid trimer were also formed.

L7 ANSWER 60 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1969:68033 CAPLUS
DN 70:68033
TI Use of the Wilkinson rhodium catalyst for the homogeneous hydrogenation of unsaturated thiophene derivatives
AU Hornfeldt, Anna B.; Gronowitz, Jan S.; Gronowitz, Salo
CS Univ. Lund, Lund, Swed.
SO Acta Chemica Scandinavica (1947-1973) (1968), 22(8), 2725-7
CODEN: ACSAA4; ISSN: 0001-5393
DT Journal
LA English
OS CASREACT 70:68033
AB R(CH₂)₃CH:CH₂ (R = 2-thienyl), RC(:CH₂)Me, RCO(CH₂)₂CH:CH₂, and RCOCH:CHMe were rapidly hydrogenated in the presence of tris(triphenylphosphine)chlororhodium(I). trans-RCH:CHR reacted more slowly.

L7 ANSWER 61 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1968:95898 CAPLUS
DN 68:95898
TI Interaction of silanes with tris(triphenylphosphine)-chlororhodium(I) and other rhodium complexes; hydrosilation of hex-1-ene by use of trichlorosilane
AU De Charentenay, F.; Osborn, John A.; Wilkinson, Geoffrey
CS Imp. Coll., London, UK
SO Journal of the Chemical Society [Section] A: Inorganic, Physical, Theoretical (1968), (4), 787-90
CODEN: JCSIAP; ISSN: 0022-4944
DT Journal
LA English
AB The oxidative addition reactions of trichloro- and other silanes with tris(triphenylphosphine)chlororhodium and other rhodium(I) complexes are described. The adducts were characterized inter alia by high-resolution N.M.R. and ir studies. The complexes were studied as catalysts for the addition of trichlorosilane to hex-1-ene.

L7 ANSWER 62 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN
AN 1968:45809 CAPLUS
DN 68:45809
TI Tris(triphenylphosphine)halorhodium(I)
AU Osborn, John A.; Wilkinson, Geoffrey
CS Imp. Coll., London, UK
SO Inorganic Syntheses (1967), 10, 67-71
CODEN: INSYA3; ISSN: 0073-8077
DT Journal
LA English

AB Treatment of an EtOH solution containing $\text{RhCl}_3 \cdot 3\text{H}_2\text{O}$ with PPh_3 in hot EtOH at reflux temps. gave 88% $\text{RhCl}(\text{PPh}_3)_3$. Similarly prepared was $\text{RhBr}(\text{PPh}_3)_3$ with the addition of LiBr . The properties of the 2 compds. are discussed.

L7 ANSWER 63 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1967:482257 CAPLUS

DN 67:82257

TI π -Allylic complexes of rhodium(III) and platinum(II). I. Preparation, properties, and structure

AU Volger, H. C.; Vrieze, K.

CS Koninkl./Shell-Lab., Amsterdam, Neth.

SO Journal of Organometallic Chemistry (1967), 9(3), 527-36

CODEN: JORCAI; ISSN: 0022-328X

DT Journal

LA English

AB π -Allylic complexes $\text{L}_2\text{X}_2\text{Rh}(\pi\text{-C}_3\text{H}_4\text{R})$ with $\text{L} = \text{Ph}_3\text{P}, \text{Ph}_3\text{As}, (\text{p-MeNC}_6\text{H}_4)_3\text{As}, \text{Ph}_3\text{Sb}$; $\text{X} = \text{Cl}, \text{Br}$, and $\text{R} = \text{H}, \text{Me}$ and the compound $(\text{Ph}_3\text{P})_2\text{Cl}_2\text{Rh}[\pi\text{-MeC:CH:CH}_2]$ have been obtained by reaction of the corresponding allyl halides with L_3RhX . Treatment of $(\text{Ph}_3\text{P})_4\text{Pt}$ with allyl halides yielded uni-univalent complexes $[(\text{Ph}_3\text{P})_2\text{Pt}(\pi\text{-R}_2\text{CCH:CH}_2)]\text{X}$ with $\text{X} = \text{Cl}, \text{Br}$, and $\text{R} = \text{H}, \text{Me}$. The configuration of the compds. was determined by means of elec. conductivity measurements in solution, ir, proton magnetic resonance, and dipole moment measurements. It was shown that the Group V donor ligands L are both situated trans to the allyl ligand. 21 references.

L7 ANSWER 64 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1967:449978 CAPLUS

DN 67:49978

TI Carbon disulfide, carbonyl sulfide, and alkyl and arylisothiocyanate and perfluorothioacetone complexes of nickel, palladium, rhodium, and iridium

AU Baird, Michael C.; Wilkinson, Geoffrey

CS Imp. Coll., London, UK

SO Journal of the Chemical Society [Section] A: Inorganic, Physical, Theoretical (1967), 1967(6), 865-72

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DT Journal

LA English

AB The interaction of CS_2 with Ph_3P complexes of $\text{Ni}, \text{Pd}, \text{Pt}, \text{Rh}$, and Ir in zero or 1 + oxidation states leads to complexes in which the CS_2 ligand is " π -bonded", as exemplified by the first member of this new class of compds. whose structure has been confirmed by crystallographic methods, $[\text{Pt}(\text{PPh}_3)_2(\text{CS}_2)]^{++}$. Evidence for a donor complex of CS_2 has been obtained in one case. Structurally related " π -complexes" have been obtained from COS , and alkyl and aryl isothiocyanates. An alkyl isothiocyanate-Pt complex is best formulated with metal-bonded π -allyl and thiocyanato-groups, however. In the interaction of the isothiocyanates with $[\text{Rh}(\text{PPh}_3)_3\text{Cl}]$, both π -bonded" and donor coordinated isothiocyanates are present. A π -perfluorothioacetone complex $(\text{Ph}_3\text{P})_2\text{Pt}(\text{C}_2\text{F}_6\text{CS})$ and a benzoyl complex $(\text{Ph}_3\text{P})_2\text{PtCl}(\text{COPh})$ are obtained from the interaction of $\text{Pt}(\text{PPh}_3)_3$ with 2,2,4,4-tetrakis(trifluoromethyl)-1,3-dithietan and benzoyl chloride, resp.; also described is the arylazo-complex $\text{RhCl}_2(\text{p-FC}_6\text{H}_4\text{N}_2)(\text{PPh}_3)_2 \cdot 0.5\text{CHCl}_3$, obtained by interaction of p-fluorophenyldiazonium tetrafluoroborate with $\text{RhCl}_2\text{H}(\text{PPh}_3)_2$. 38 references.

L7 ANSWER 65 OF 65 CAPLUS COPYRIGHT 2006 ACS on STN

AN 1967:28877 CAPLUS

DN 66:28877

TI Preparation and properties of tris(triphenylphosphine)halorhodium(I) and some reactions thereof including catalytic homogeneous hydrogenation of olefins and acetylenes and their derivatives

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SO Journal of the Chemical Society [Section] A: Inorganic, Physical, Theoretical (1966), (12), 1711-32

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DT Journal

LA English

AB Tris(triphenylphosphine)chlororhodium(I), $\text{RhCl}(\text{PPh}_3)_3$, was prepared by interaction of excess triphenylphosphine with rhodium (III) chloride hydrate in ethanol; the corresponding bromide and iodide are also described. The dissociation of the complex in various solvents was investigated, and its reactions with hydrogen, ethylene, and carbon monoxide and aldehydes studied. Dihydride and ethylene complexes were isolated and studied by N.M.R. spectroscopy. Approx. values for the formation consts. of ethylene and propylene complexes were obtained: the latter is lower by a factor of over 103. By E.S.R. spectroscopy, the complex $\text{RhCl}(\text{PPh}_3)_3$ was shown to contain trace amts. of a paramagnetic species, probably a rhodium(II) complex. In homogeneous solution the tris(triphenylphosphine) complexes are exceedingly active catalysts for the rapid and homogeneous hydrogenation, at about 1 atmospheric of H pressure and room temperature, of unsaturated compounds containing isolated olefinic and acetylenic linkages. The rates of hydrogenation of hept-1-ene, cyclohexene, and hex-1-yne were studied quantitatively and the dependence on factors such as substrate and catalyst concentration, temperature, and pressure determined. The data can be accommodated by a rate expression of the form: $\text{rate} = K_p[S][A]/(1 + K_1p + K_2[S])$, where [S] and [A] are the olefin and catalyst concentrations, respectively, and p is the concentration of H in solution. From the data for cyclohexene the activation energy for the rate determining step is $E_a = 22.9 \text{ kcal. mole}^{-1}$ ($\Delta H^\ddagger = 22.3 \text{ kcal. mole}^{-1}$) and the value of $\Delta S^\ddagger = 12.9$ entropy unit. The rate of H-D exchange under selected conditions is quite slow compared with the rates of hydrogenation of olefins and, furthermore, when H-D mixtures are used in the reactions, alkanes and dideuterioalkanes are the major products. Reductions of maleic and fumaric acids with D shows that cis addition occurs preferentially. Similarly, in the reduction of hex-2-yne to n-hexane, cis-hex-2-ene is found to be the major olefin intermediate. A mechanism for the hydrogenation is proposed in which the metal complex serves as a template to which a H molecule and an olefin molecule are briefly coordinated before transfer of one to the other takes place. The low kinetic isotope effect (rate H/rate D = 0.9) suggests that synchronous breaking of Rh-H bonds and making of C-H bonds takes place in the transition state involving two simultaneous three-center interactions. 57 references.